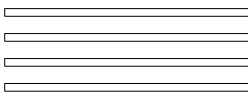


GIGABYTE GA-8I848E-L Schematics

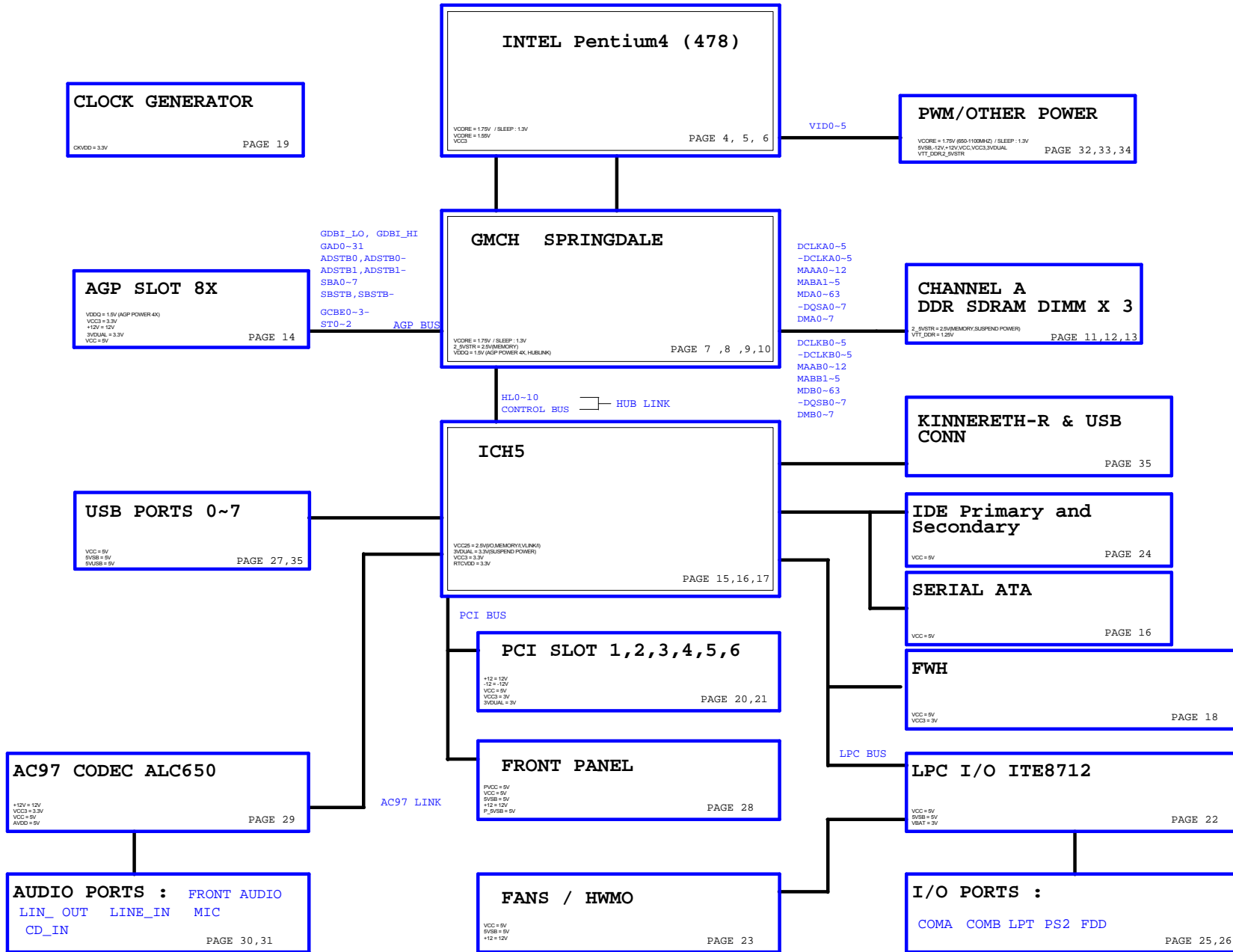
Revision
1.01

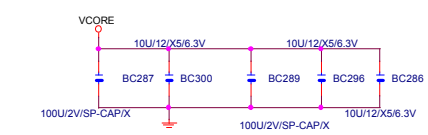
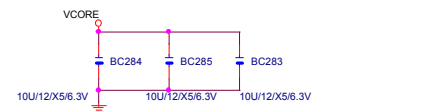
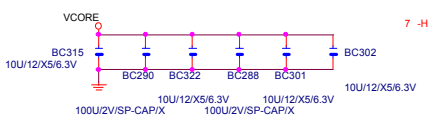
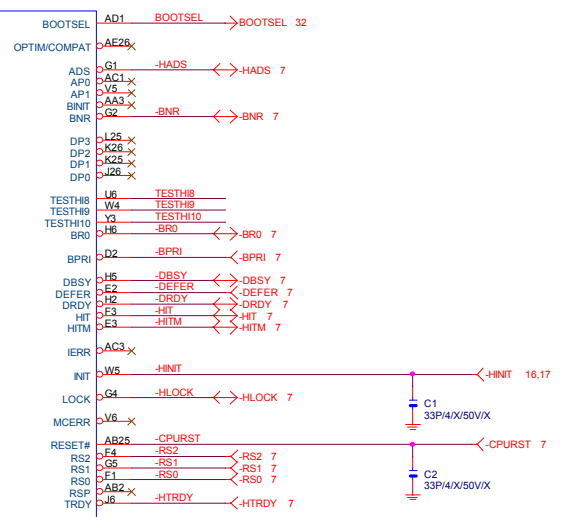
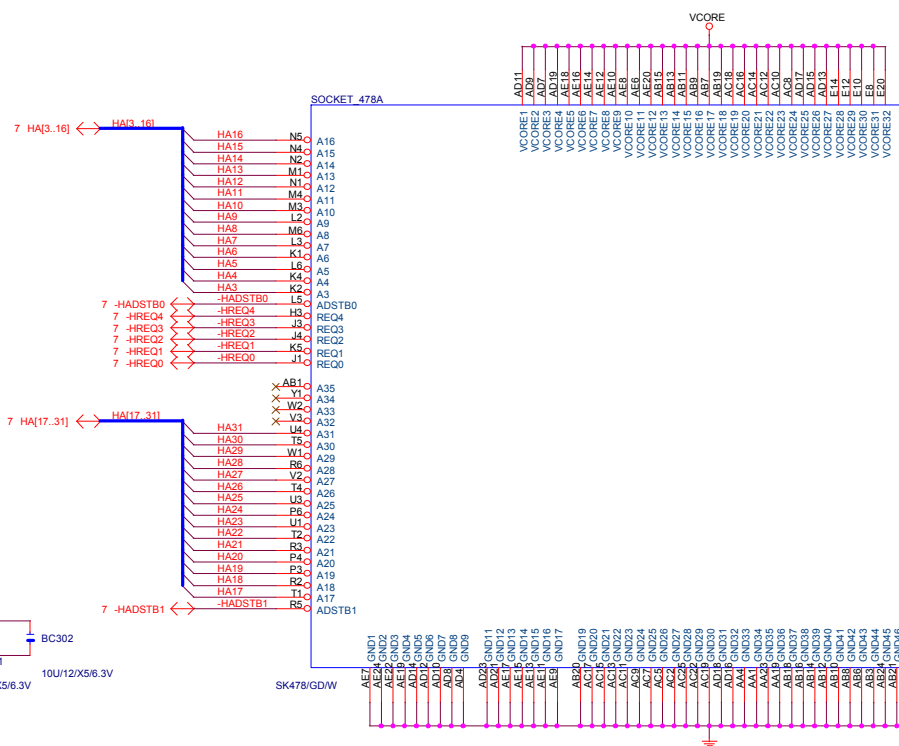
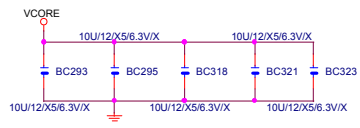
SHEET	TITLE
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	P4_478A
05	P4_478B
06	P4_478C
07	SPRINGDALE HOST
08	SPRINGDALE DDR
09	SPRINGDALE AGP, HUB, CSA, VGA
10	SPRINGDALE PWR
11	DDR1,2 CHANNEL A
12	DDR3 CHANNEL A
13	DDR TERMINATION
14	AGP
15	ICH5 PCI, USB, HUB, LAN
16	ICH5 IDE, GPIO, SATA, CTRL
17	ICH5 VCC, GND
18	FWH
19	ICS952603 CLOCK GEN
20	PCI1_2
21	PCI3_4
22	PCI5_6

SHEET	TITLE
23	CODEC
24	AUDIO JACK, L_OUT, F_AUDIO
25	ITE 8712
26	COM_LPT
27	IDE
28	FAN/HWMO
29	KB_PS2
30	FPANEL
31	USB CONN
32	DDR POWER
33	VCORE POWER
34	ATX, OTHERS POWER
35	KINNERETH-R LNA(CSA-1)
36	KINNERETH-R LNA(CSA-2)
37	KINNERETH-R LNA(CSA-3)

		COMPONENT SIDE (1 oz. Copper) VCC SIDE (1 oz. Copper) GND SIDE (1 oz. Copper) SOLDER SIDE (1 oz. Copper)
GIGABYTE CORP.		
Title: COVER SHEET		
Size: Custom	Document Number: GA-8I848E-L	Rev: 1.01
Date:	Sheet 1 of 38	

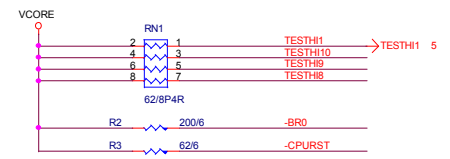
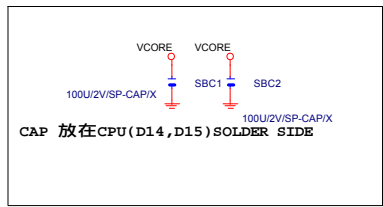
BLOCK DIAGRAM



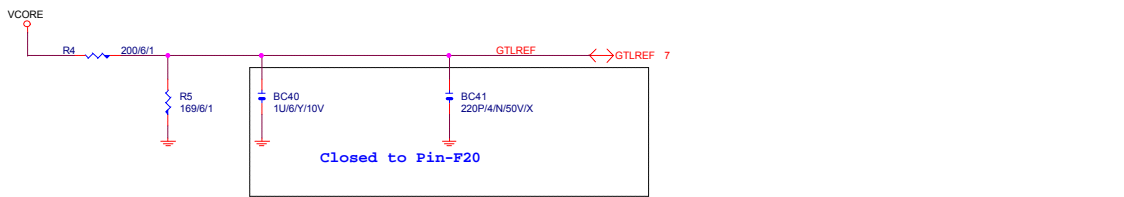


SP-CAP X 2 PCS

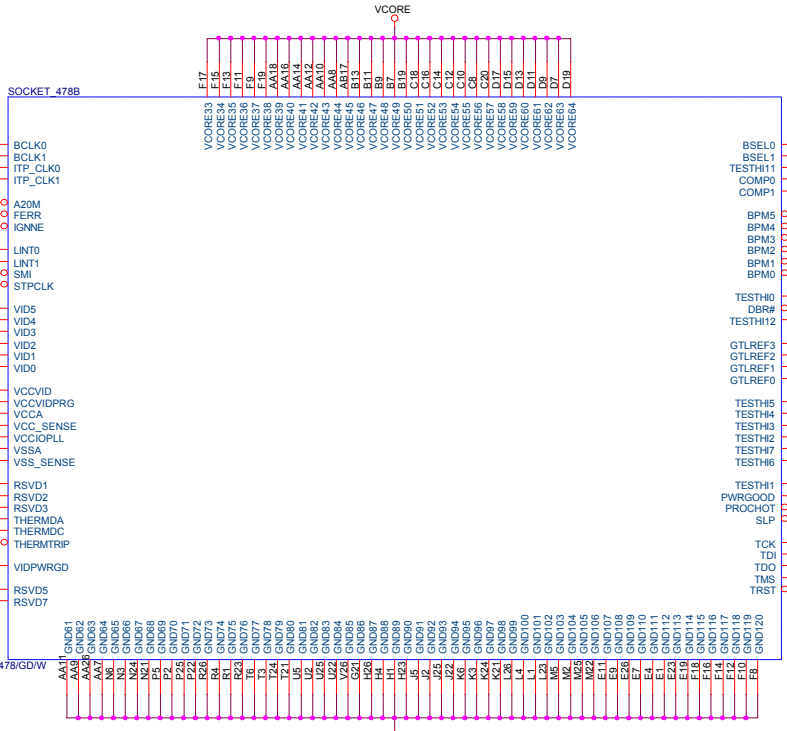
CPU SOCKET



Title			P4 478A		
Size	Document Number				Rev
Custom	GA-81848E-L				1.01
Date:	Sheet 4 of 38				

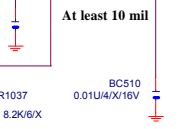
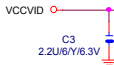


Place outside of CPU socket

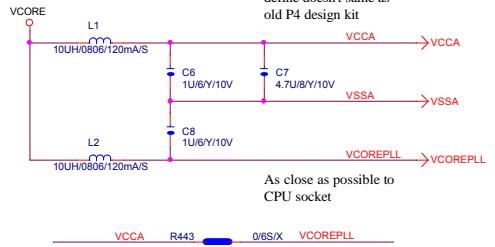


LEGACY CPU

24.32 VID[0..5] ← VID0_5

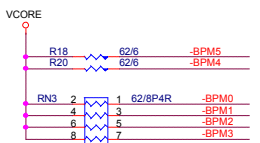
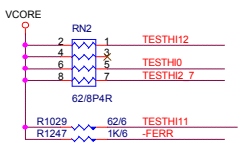


Note:
VCCA & VCOREPLL
define doesn't same as
old P4 design kit

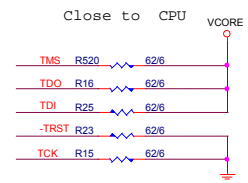


As close as possible to CPU socket

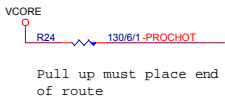
Trace width doesn't less than 12 Mil



Close to CPU

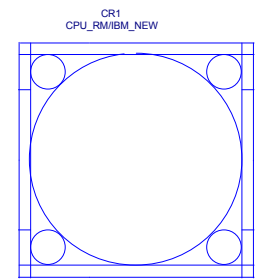
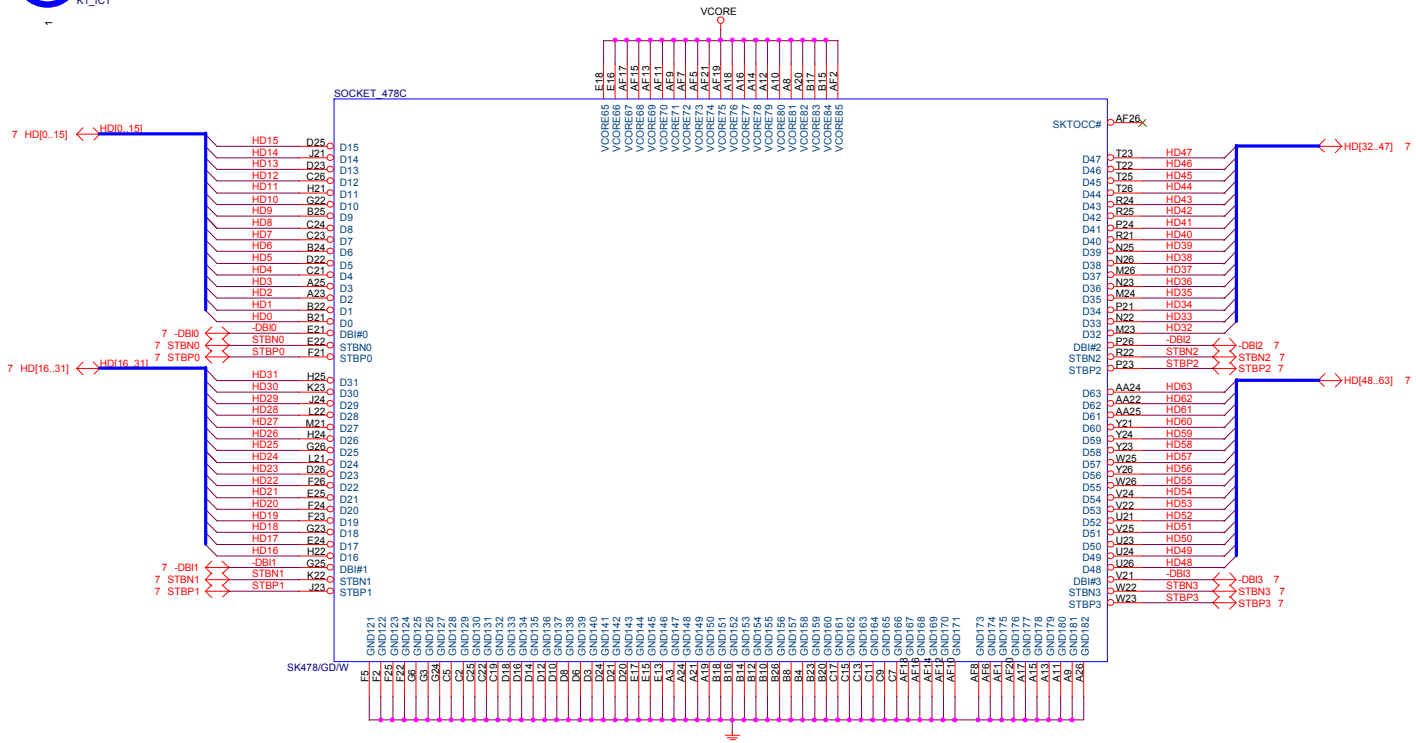
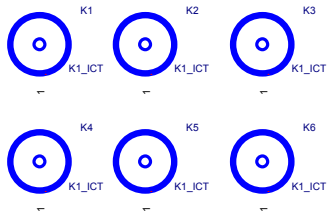


Put on V-CUT top

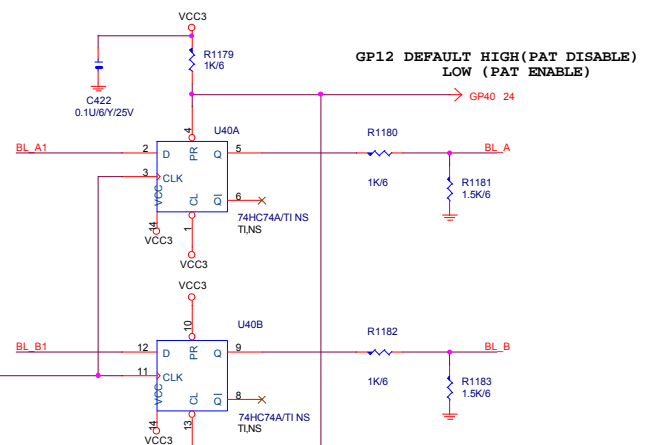
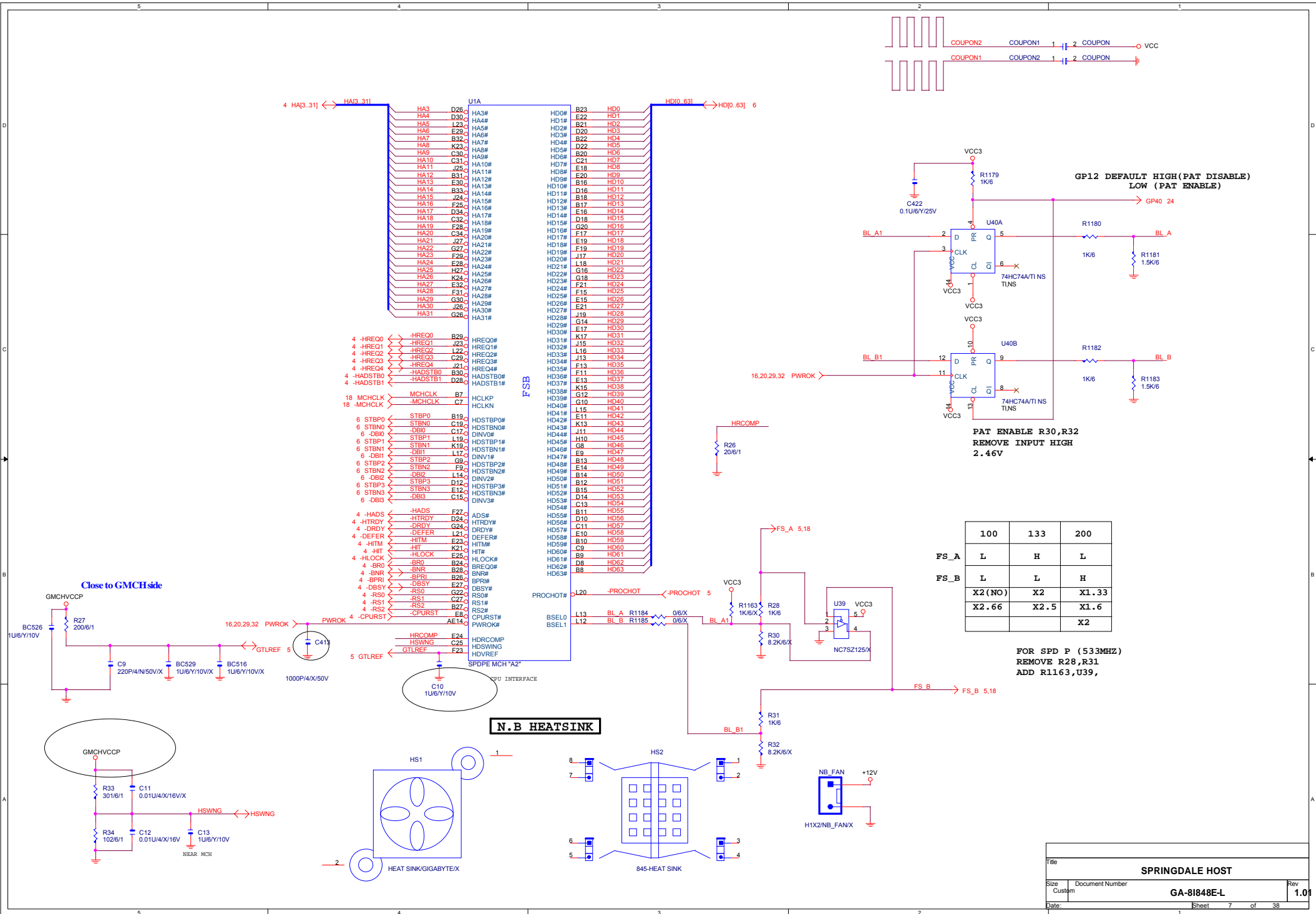


Pull up must place end of route

Title		
P4 478B		
Size	Document Number	Rev
Custom	GA-81848E-L	1.01
Date	Sheet 5 of 38	



Title			P4 478C		
Size	Document Number				Rev
Custom	GA-81848E-L				1.01
Date	Sheet 6 of 38				



	100	133	200
FS_A	L	H	L
FS_B	L	L	H
X2 (NO)	X2	X2	X1.33
X2.66	X2.5	X2.5	X1.6
			X2

FOR SPD P (533MHZ)
REMOVE R28,R31
ADD R1163,U39,

N.B HEATSINK

11,12,13 MAAA[0..12] ↔ MAAA0_12
 11,12 MABA[1..5] ↔ MABA1_5
 11,12,13 DMA[0..7] ↔ DMA0_7
 11,12,13 MDA[0..63] ↔ MDA0_63
 11,12,13 DQSA[0..7] ↔ DQSA0_7

11,12,13 -SWEA ↔ SWEA AB34
 11,12,13 -SCASA ↔ SCASA Y34
 11,12,13 -SRASA ↔ SRASA AC33
 11,12,13 SBA0 ↔ SBA0 AE33
 11,12,13 SBA1 ↔ SBA1 AH34
 11,13 -CSA0 ↔ CSA0 AA34
 11,13 CSA1 ↔ CSA1 Y21
 11,12,13 CSA2 ↔ CSA2 Y32
 11,12,13 -CSA3 ↔ CSA3 W34
 11,13 CKEA0 ↔ CKEA0 AL20
 11,13 CKEA1 ↔ CKEA1 AN19
 11,12,13 CKEA2 ↔ CKEA2 AM20
 11,12,13 CKEA3 ↔ CKEA3 AP20

11 DCLKA0 ↔ DCLKA0 AK32
 11 -DCLKA0 ↔ -DCLKA0 AK31
 11 DCLKA1 ↔ DCLKA1 AP17
 11 -DCLKA1 ↔ -DCLKA1 AN17
 11 DCLKA2 ↔ DCLKA2 N33
 11 -DCLKA2 ↔ -DCLKA2 N34
 11,12,13 DCLKA3 ↔ DCLKA3 AK33
 11,12,13 -DCLKA3 ↔ -DCLKA3 AK34
 11,12,13 DCLKA4 ↔ DCLKA4 AM16
 11,12,13 -DCLKA4 ↔ -DCLKA4 AL16
 11,12,13 DCLKA5 ↔ DCLKA5 P31
 11,12,13 -DCLKA5 ↔ -DCLKA5 P32

BC46 1U/6/Y/10V
 Closed to MCH
 SMVREF_A
 SMXRCOMP
 SMXRCOMPVOH
 SMXRCOMPVOL

BC50 1U/6/Y/10V
 DDRVREFA

SDQ_A0 AN11 DQSA0
 SDQ_A1 AP10 MDA0
 SDQ_A2 AP11 MDA1
 SDQ_A3 AM12 MDA2
 SDQ_A4 AN13 MDA3
 SDQ_A5 AM10 MDA4
 SDQ_A6 AL10 MDA5
 SDQ_A7 AL12 MDA6
 SDQ_A8 AP13 MDA7
 SDQ_A9 AP15 DQSA1
 SDQ_A10 AP16 DMA1
 SDQ_A11 AP14 MDA8
 SDQ_A12 AM14 MDA9
 SDQ_A13 AL18 MDA10
 SDQ_A14 AP19 MDA11
 SDQ_A15 AL14 MDA12
 SDQ_A16 AN15 MDA13
 SDQ_A17 AP18 MDA14
 SDQ_A18 AM18 MDA15
 SDQ_A19 AP22 DQSA2
 SDQ_A20 AM24 DMA2
 SDQ_A21 AP22 MDA16
 SDQ_A22 AM22 MDA17
 SDQ_A23 AL24 MDA18
 SDQ_A24 AN27 MDA19
 SDQ_A25 AP21 MDA20
 SDQ_A26 AL22 MDA21
 SDQ_A27 AP25 MDA22
 SDQ_A28 AP27 MDA23
 SDQ_A29 AM30 DQSA3
 SDQ_A30 AP30 DMA3
 SDQ_A31 AP28 MDA24
 SDQ_A32 AP25 MDA25
 SDQ_A33 AP31 MDA26
 SDQ_A34 AM33 MDA27
 SDQ_A35 AM28 MDA28
 SDQ_A36 AN29 MDA29
 SDQ_A37 AM31 MDA30
 SDQ_A38 AN34 MDA31
 SDQ_A39 AF34 DQSA4
 SDQ_A40 AF31 DMA4
 SDQ_A41 AH32 MDA32
 SDQ_A42 AG34 MDA33
 SDQ_A43 AF32 MDA34
 SDQ_A44 AD32 MDA35
 SDQ_A45 AH31 MDA36
 SDQ_A46 AG33 MDA37
 SDQ_A47 AE34 MDA38
 SDQ_A48 AD34 MDA39
 SDQ_A49 M32 DQSA6
 SDQ_A50 M34 DMA6
 SDQ_A51 T34 MDA48
 SDQ_A52 T32 MDA49
 SDQ_A53 K34 MDA50
 SDQ_A54 K32 MDA51
 SDQ_A55 T31 MDA52
 SDQ_A56 P34 MDA53
 SDQ_A57 L34 MDA54
 SDQ_A58 L33 MDA55
 SDQ_A59 H31 DQSA7
 SDQ_A60 H32 DMA7
 SDQ_A61 J33 MDA56
 SDQ_A62 H34 MDA57
 SDQ_A63 E33 MDA58
 SDQ_A64 F32 MDA59
 SDQ_A65 K31 MDA60
 SDQ_A66 J34 MDA61
 SDQ_A67 G34 MDA62
 SDQ_A68 F34 MDA63

DDR Channel A

SDPE MCH

SDQ_B0 AN11 DQSA0
 SDQ_B1 AP10 MDA0
 SDQ_B2 AP11 MDA1
 SDQ_B3 AM12 MDA2
 SDQ_B4 AN13 MDA3
 SDQ_B5 AM10 MDA4
 SDQ_B6 AL10 MDA5
 SDQ_B7 AL12 MDA6
 SDQ_B8 AP13 MDA7
 SDQ_B9 AP15 DQSA1
 SDQ_B10 AP16 DMA1
 SDQ_B11 AP14 MDA8
 SDQ_B12 AM14 MDA9
 SDQ_B13 AL18 MDA10
 SDQ_B14 AP19 MDA11
 SDQ_B15 AL14 MDA12
 SDQ_B16 AN15 MDA13
 SDQ_B17 AP18 MDA14
 SDQ_B18 AM18 MDA15
 SDQ_B19 AP22 DQSA2
 SDQ_B20 AM24 DMA2
 SDQ_B21 AP22 MDA16
 SDQ_B22 AM22 MDA17
 SDQ_B23 AL24 MDA18
 SDQ_B24 AN27 MDA19
 SDQ_B25 AP21 MDA20
 SDQ_B26 AL22 MDA21
 SDQ_B27 AP25 MDA22
 SDQ_B28 AP27 MDA23
 SDQ_B29 AM30 DQSA3
 SDQ_B30 AP30 DMA3
 SDQ_B31 AP28 MDA24
 SDQ_B32 AP25 MDA25
 SDQ_B33 AP31 MDA26
 SDQ_B34 AM33 MDA27
 SDQ_B35 AM28 MDA28
 SDQ_B36 AN29 MDA29
 SDQ_B37 AM31 MDA30
 SDQ_B38 AN34 MDA31
 SDQ_B39 AF34 DQSA4
 SDQ_B40 AF31 DMA4
 SDQ_B41 AH32 MDA32
 SDQ_B42 AG34 MDA33
 SDQ_B43 AF32 MDA34
 SDQ_B44 AD32 MDA35
 SDQ_B45 AH31 MDA36
 SDQ_B46 AG33 MDA37
 SDQ_B47 AE34 MDA38
 SDQ_B48 AD34 MDA39
 SDQ_B49 M32 DQSA6
 SDQ_B50 M34 DMA6
 SDQ_B51 T34 MDA48
 SDQ_B52 T32 MDA49
 SDQ_B53 K34 MDA50
 SDQ_B54 K32 MDA51
 SDQ_B55 T31 MDA52
 SDQ_B56 P34 MDA53
 SDQ_B57 L34 MDA54
 SDQ_B58 L33 MDA55
 SDQ_B59 H31 DQSA7
 SDQ_B60 H32 DMA7
 SDQ_B61 J33 MDA56
 SDQ_B62 H34 MDA57
 SDQ_B63 E33 MDA58
 SDQ_B64 F32 MDA59
 SDQ_B65 K31 MDA60
 SDQ_B66 J34 MDA61
 SDQ_B67 G34 MDA62
 SDQ_B68 F34 MDA63

DDR Channel B

SDPE MCH

SMVREF_B
 SMXRCOMP
 SMXRCOMPVOH
 SMXRCOMPVOL
 SMYRCOMP
 SMYRCOMPVOH
 SMYRCOMPVOL
 BC47 1U/6/Y/10V
 Closed to MCH
 DDRVREFB
 BC52 1U/6/Y/10V
 R42 150/6/1
 R45 150/6/1
 R48 42.2/6/1
 R50 42.2/6/1
 R56 42.2/6/1
 R60 42.2/6/1
 R49 42.2/6/1
 BC55 33P/4/N/50V/X
 BC513 0.1U/6/Y/25V/BX
 SC20 0.1U/6/Y/25V/BX

11,12,13 -SWEA ↔ SWEA AB34
 11,12,13 -SCASA ↔ SCASA Y34
 11,12,13 -SRASA ↔ SRASA AC33
 11,12,13 SBA0 ↔ SBA0 AE33
 11,12,13 SBA1 ↔ SBA1 AH34
 11,13 -CSA0 ↔ CSA0 AA34
 11,13 CSA1 ↔ CSA1 Y21
 11,12,13 CSA2 ↔ CSA2 Y32
 11,12,13 -CSA3 ↔ CSA3 W34
 11,13 CKEA0 ↔ CKEA0 AL20
 11,13 CKEA1 ↔ CKEA1 AN19
 11,12,13 CKEA2 ↔ CKEA2 AM20
 11,12,13 CKEA3 ↔ CKEA3 AP20

11 DCLKA0 ↔ DCLKA0 AK32
 11 -DCLKA0 ↔ -DCLKA0 AK31
 11 DCLKA1 ↔ DCLKA1 AP17
 11 -DCLKA1 ↔ -DCLKA1 AN17
 11 DCLKA2 ↔ DCLKA2 N33
 11 -DCLKA2 ↔ -DCLKA2 N34
 11,12,13 DCLKA3 ↔ DCLKA3 AK33
 11,12,13 -DCLKA3 ↔ -DCLKA3 AK34
 11,12,13 DCLKA4 ↔ DCLKA4 AM16
 11,12,13 -DCLKA4 ↔ -DCLKA4 AL16
 11,12,13 DCLKA5 ↔ DCLKA5 P31
 11,12,13 -DCLKA5 ↔ -DCLKA5 P32

BC46 1U/6/Y/10V
 Closed to MCH
 SMVREF_B
 SMXRCOMP
 SMXRCOMPVOH
 SMXRCOMPVOL

BC50 1U/6/Y/10V
 DDRVREFB

SDQ_B0 AN11 DQSA0
 SDQ_B1 AP10 MDA0
 SDQ_B2 AP11 MDA1
 SDQ_B3 AM12 MDA2
 SDQ_B4 AN13 MDA3
 SDQ_B5 AM10 MDA4
 SDQ_B6 AL10 MDA5
 SDQ_B7 AL12 MDA6
 SDQ_B8 AP13 MDA7
 SDQ_B9 AP15 DQSA1
 SDQ_B10 AP16 DMA1
 SDQ_B11 AP14 MDA8
 SDQ_B12 AM14 MDA9
 SDQ_B13 AL18 MDA10
 SDQ_B14 AP19 MDA11
 SDQ_B15 AL14 MDA12
 SDQ_B16 AN15 MDA13
 SDQ_B17 AP18 MDA14
 SDQ_B18 AM18 MDA15
 SDQ_B19 AP22 DQSA2
 SDQ_B20 AM24 DMA2
 SDQ_B21 AP22 MDA16
 SDQ_B22 AM22 MDA17
 SDQ_B23 AL24 MDA18
 SDQ_B24 AN27 MDA19
 SDQ_B25 AP21 MDA20
 SDQ_B26 AL22 MDA21
 SDQ_B27 AP25 MDA22
 SDQ_B28 AP27 MDA23
 SDQ_B29 AM30 DQSA3
 SDQ_B30 AP30 DMA3
 SDQ_B31 AP28 MDA24
 SDQ_B32 AP25 MDA25
 SDQ_B33 AP31 MDA26
 SDQ_B34 AM33 MDA27
 SDQ_B35 AM28 MDA28
 SDQ_B36 AN29 MDA29
 SDQ_B37 AM31 MDA30
 SDQ_B38 AN34 MDA31
 SDQ_B39 AF34 DQSA4
 SDQ_B40 AF31 DMA4
 SDQ_B41 AH32 MDA32
 SDQ_B42 AG34 MDA33
 SDQ_B43 AF32 MDA34
 SDQ_B44 AD32 MDA35
 SDQ_B45 AH31 MDA36
 SDQ_B46 AG33 MDA37
 SDQ_B47 AE34 MDA38
 SDQ_B48 AD34 MDA39
 SDQ_B49 M32 DQSA6
 SDQ_B50 M34 DMA6
 SDQ_B51 T34 MDA48
 SDQ_B52 T32 MDA49
 SDQ_B53 K34 MDA50
 SDQ_B54 K32 MDA51
 SDQ_B55 T31 MDA52
 SDQ_B56 P34 MDA53
 SDQ_B57 L34 MDA54
 SDQ_B58 L33 MDA55
 SDQ_B59 H31 DQSA7
 SDQ_B60 H32 DMA7
 SDQ_B61 J33 MDA56
 SDQ_B62 H34 MDA57
 SDQ_B63 E33 MDA58
 SDQ_B64 F32 MDA59
 SDQ_B65 K31 MDA60
 SDQ_B66 J34 MDA61
 SDQ_B67 G34 MDA62
 SDQ_B68 F34 MDA63

SDPE MCH

SMVREF_A
 SMXRCOMP
 SMXRCOMPVOH
 SMXRCOMPVOL
 SMYRCOMP
 SMYRCOMPVOH
 SMYRCOMPVOL
 BC46 1U/6/Y/10V
 Closed to R35
 BC527 0.01U/6/Y/50V
 BC35 10K/6/1
 R35 10K/6/1
 R39 30.9K/6/1
 BC43 1U/6/Y/10V
 31.12K

SMVREF_B
 SMXRCOMP
 SMXRCOMPVOH
 SMXRCOMPVOL
 BC47 1U/6/Y/10V
 Closed to MCH
 DDRVREFB
 BC52 1U/6/Y/10V
 R38 10K/6/1
 R37 10K/6/1
 BC45 1U/6/Y/10V
 31.12K

SMVREF_C
 SMXRCOMP
 SMXRCOMPVOH
 SMXRCOMPVOL
 BC46 1U/6/Y/10V
 Closed to R39
 BC527 0.01U/6/Y/50V
 BC71 0.01U/6/Y/50V
 BC277 1U/6/Y/10V
 R39 10K/6/1
 R40 30.9K/6/1
 BC49 1U/6/Y/10V
 31.12K

SMVREF_D
 SMXRCOMP
 SMXRCOMPVOH
 SMXRCOMPVOL
 BC46 1U/6/Y/10V
 Closed to R43
 BC51 1U/6/Y/10V
 R43 30.9K/6/1
 R46 10K/6/1
 BC53 1U/6/Y/10V
 31.12K

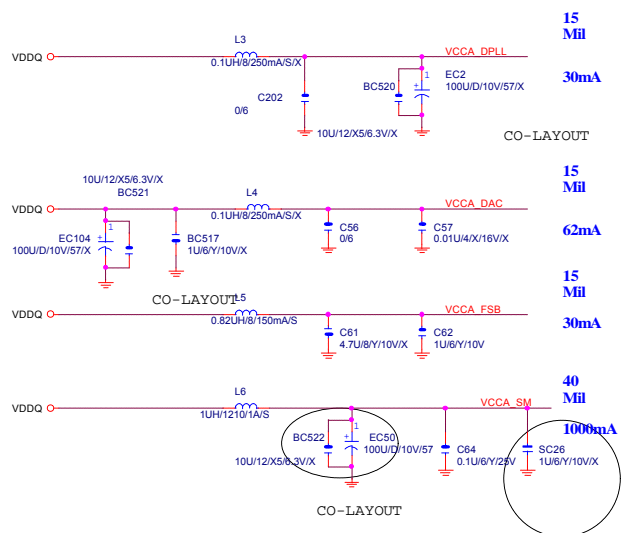
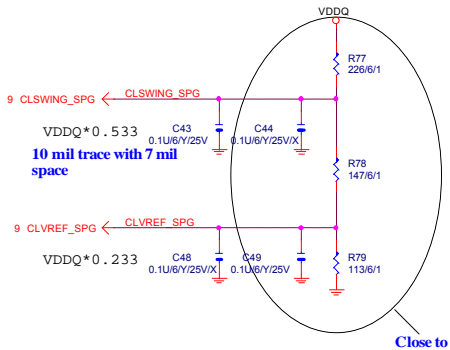
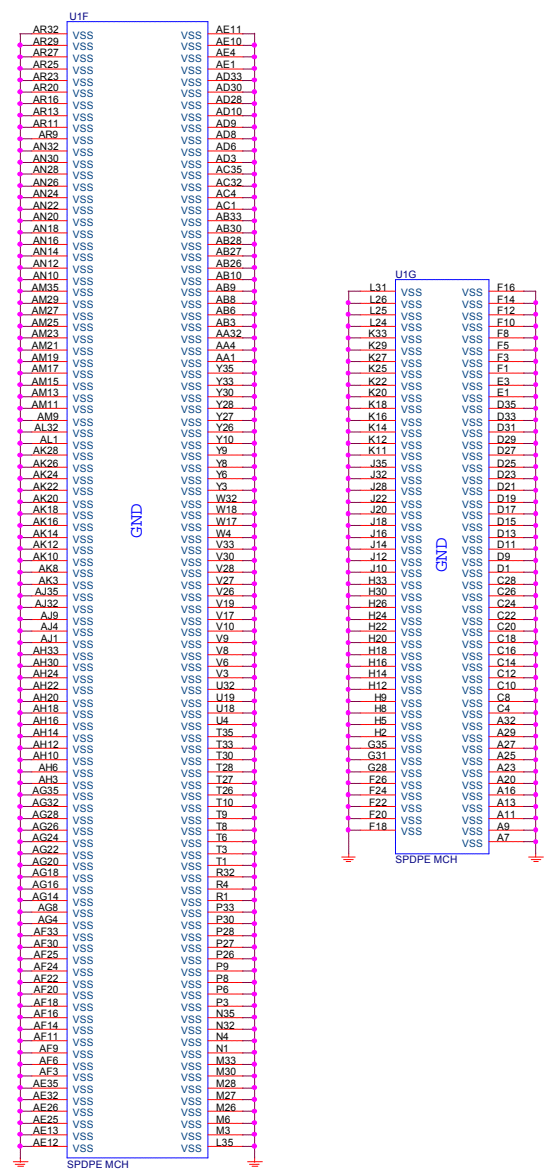
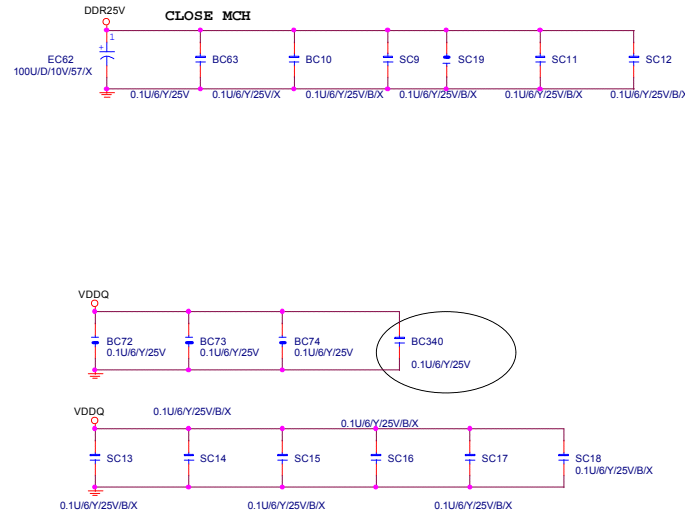
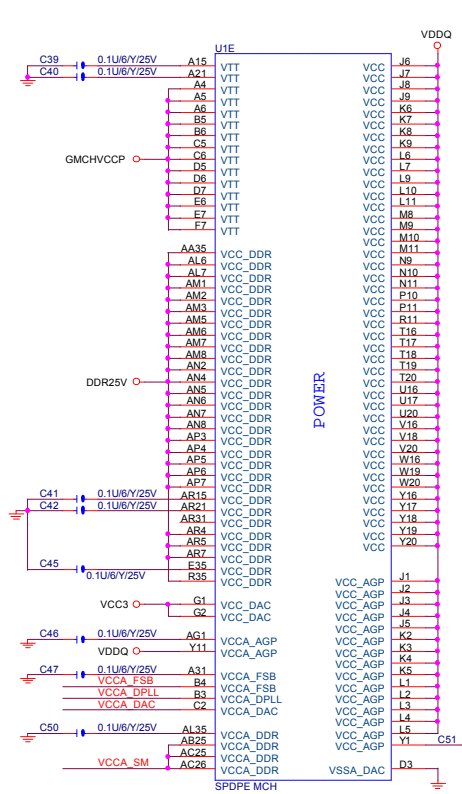
SDQ_B0 AN11 DQSA0
 SDQ_B1 AP10 MDA0
 SDQ_B2 AP11 MDA1
 SDQ_B3 AM12 MDA2
 SDQ_B4 AN13 MDA3
 SDQ_B5 AM10 MDA4
 SDQ_B6 AL10 MDA5
 SDQ_B7 AL12 MDA6
 SDQ_B8 AP13 MDA7
 SDQ_B9 AP15 DQSA1
 SDQ_B10 AP16 DMA1
 SDQ_B11 AP14 MDA8
 SDQ_B12 AM14 MDA9
 SDQ_B13 AL18 MDA10
 SDQ_B14 AP19 MDA11
 SDQ_B15 AL14 MDA12
 SDQ_B16 AN15 MDA13
 SDQ_B17 AP18 MDA14
 SDQ_B18 AM18 MDA15
 SDQ_B19 AP22 DQSA2
 SDQ_B20 AM24 DMA2
 SDQ_B21 AP22 MDA16
 SDQ_B22 AM22 MDA17
 SDQ_B23 AL24 MDA18
 SDQ_B24 AN27 MDA19
 SDQ_B25 AP21 MDA20
 SDQ_B26 AL22 MDA21
 SDQ_B27 AP25 MDA22
 SDQ_B28 AP27 MDA23
 SDQ_B29 AM30 DQSA3
 SDQ_B30 AP30 DMA3
 SDQ_B31 AP28 MDA24
 SDQ_B32 AP25 MDA25
 SDQ_B33 AP31 MDA26
 SDQ_B34 AM33 MDA27
 SDQ_B35 AM28 MDA28
 SDQ_B36 AN29 MDA29
 SDQ_B37 AM31 MDA30
 SDQ_B38 AN34 MDA31
 SDQ_B39 AF34 DQSA4
 SDQ_B40 AF31 DMA4
 SDQ_B41 AH32 MDA32
 SDQ_B42 AG34 MDA33
 SDQ_B43 AF32 MDA34
 SDQ_B44 AD32 MDA35
 SDQ_B45 AH31 MDA36
 SDQ_B46 AG33 MDA37
 SDQ_B47 AE34 MDA38
 SDQ_B48 AD34 MDA39
 SDQ_B49 M32 DQSA6
 SDQ_B50 M34 DMA6
 SDQ_B51 T34 MDA48
 SDQ_B52 T32 MDA49
 SDQ_B53 K34 MDA50
 SDQ_B54 K32 MDA51
 SDQ_B55 T31 MDA52
 SDQ_B56 P34 MDA53
 SDQ_B57 L34 MDA54
 SDQ_B58 L33 MDA55
 SDQ_B59 H31 DQSA7
 SDQ_B60 H32 DMA7
 SDQ_B61 J33 MDA56
 SDQ_B62 H34 MDA57
 SDQ_B63 E33 MDA58
 SDQ_B64 F32 MDA59
 SDQ_B65 K31 MDA60
 SDQ_B66 J34 MDA61
 SDQ_B67 G34 MDA62
 SDQ_B68 F34 MDA63

SMVREF_E
 SMXRCOMP
 SMXRCOMPVOH
 SMXRCOMPVOL
 SMYRCOMP
 SMYRCOMPVOH
 SMYRCOMPVOL
 BC46 1U/6/Y/10V
 Closed to R38
 BC527 0.01U/6/Y/50V
 BC71 0.01U/6/Y/50V
 BC277 1U/6/Y/10V
 R38 10K/6/1
 R37 10K/6/1
 BC45 1U/6/Y/10V
 31.12K

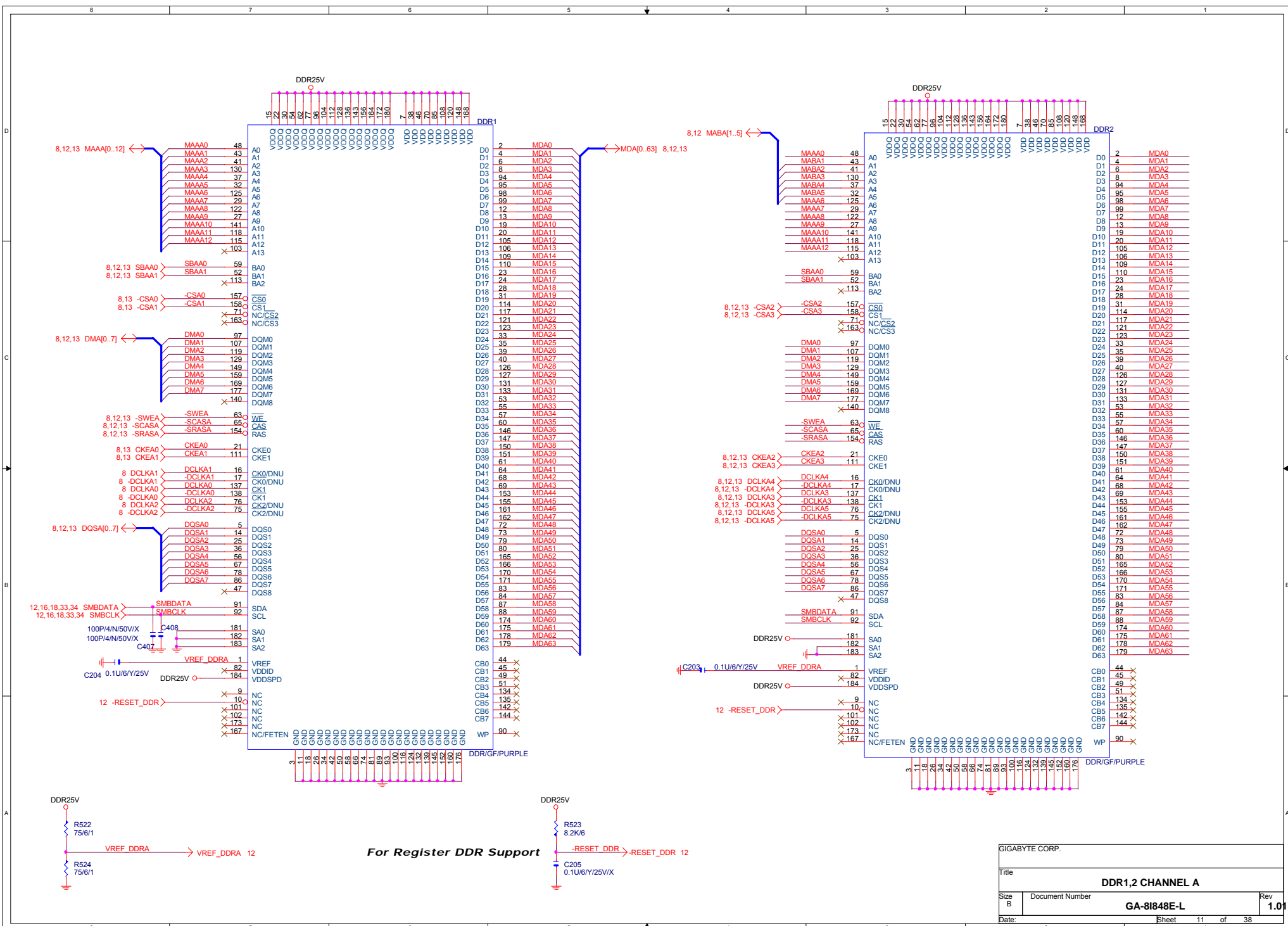
SMVREF_F
 SMXRCOMP
 SMXRCOMPVOH
 SMXRCOMPVOL
 SMYRCOMP
 SMYRCOMPVOH
 SMYRCOMPVOL
 BC46 1U/6/Y/10V
 Closed to MCH
 DDRVREFB
 BC52 1U/6/Y/10V
 R39 10K/6/1
 R40 30.9K/6/1
 BC49 1U/6/Y/10V
 31.12K

SDPE MCH

Title			SPRINGDALE DDR		
Size	Document Number	GA-81848E-L		Rev	1.01
Custom					
Date	Sheet 8 of 38				

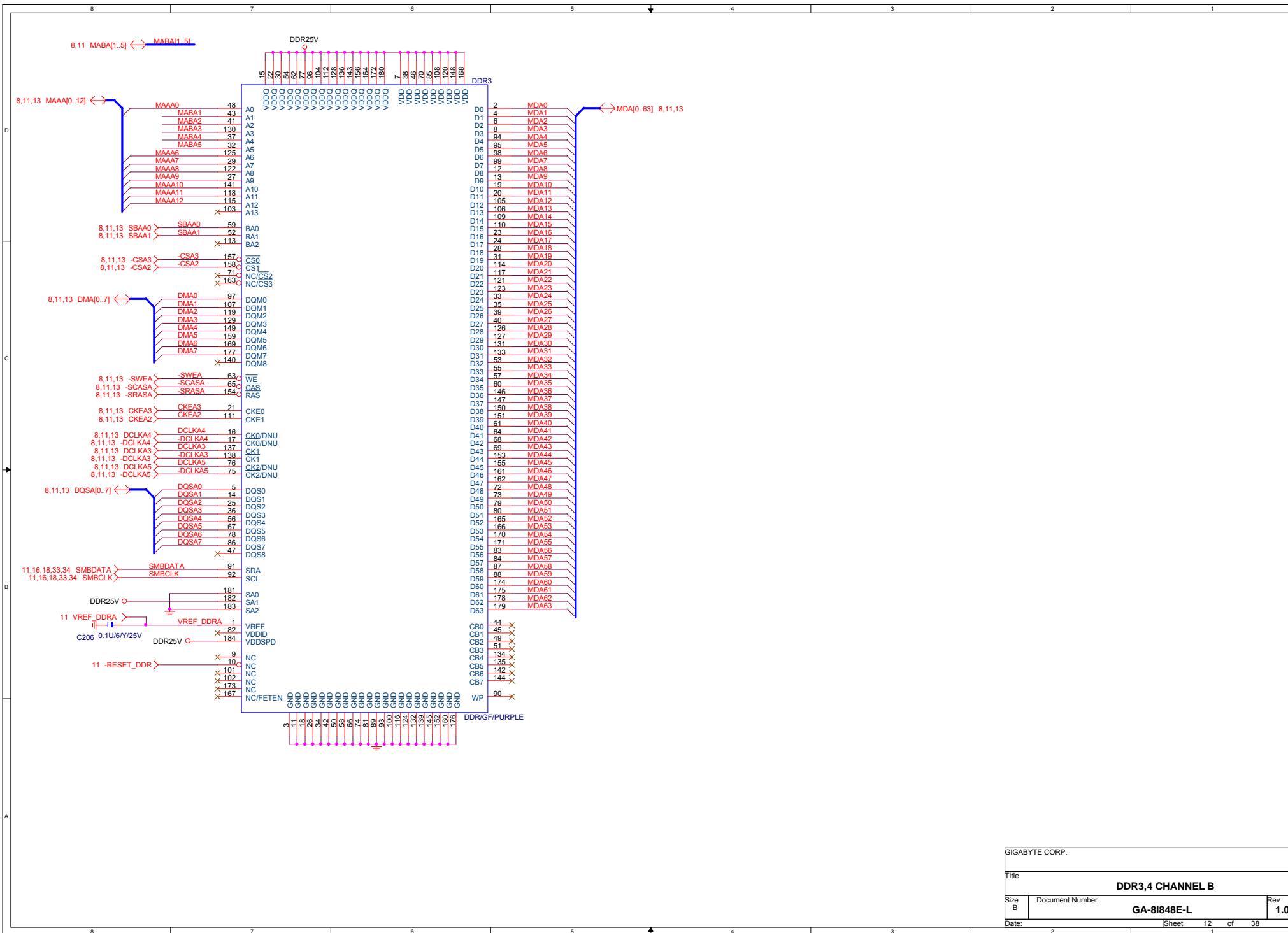


Title			
SPRINGDALE PWR			
Size	Document Number	Rev	
Custom	GA-81848E-L	1.01	
Date	Sheet		10 of 38



For Register DDR Support

GIGABYTE CORP.		
Title		
DDR1,2 CHANNEL A		
Size	Document Number	Rev
B	GA-8B48E-L	1.01
Date:	Sheet	11 of 38

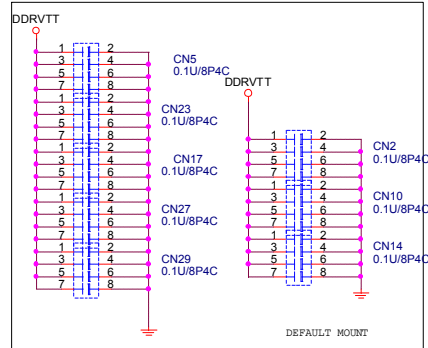
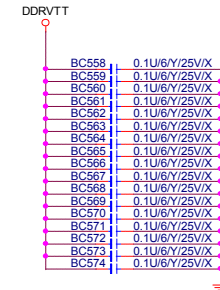
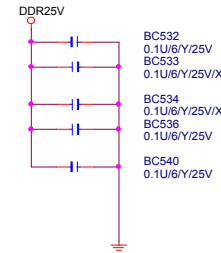
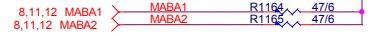
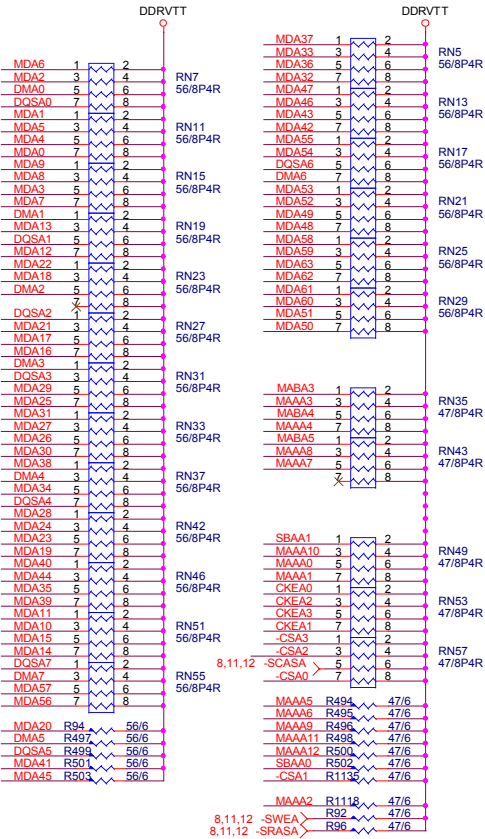
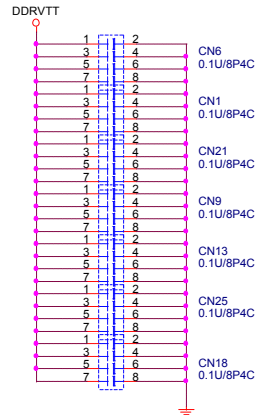


DDRVTT Decouple

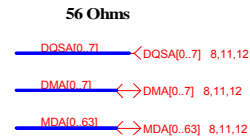
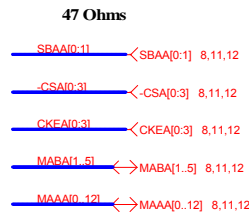
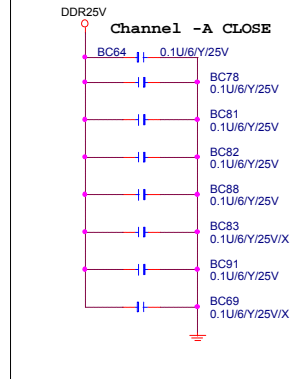
DDR TERMINATION CHANNEL A

DDRVTT Decouple

CHANNEL B

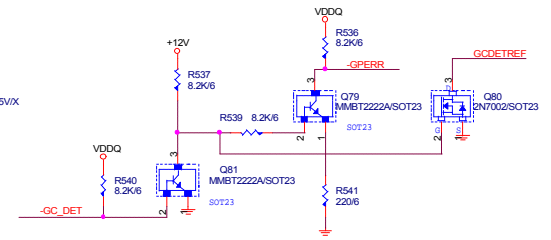
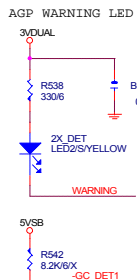
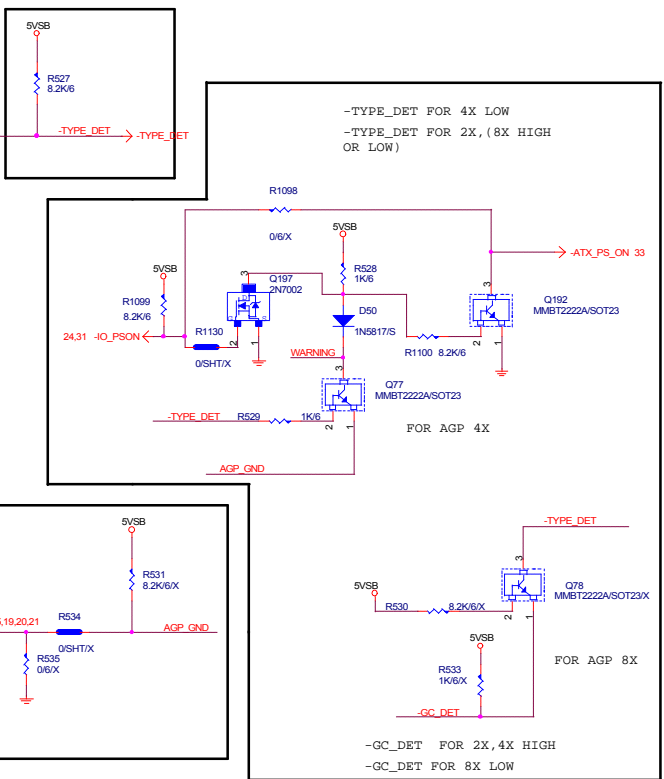
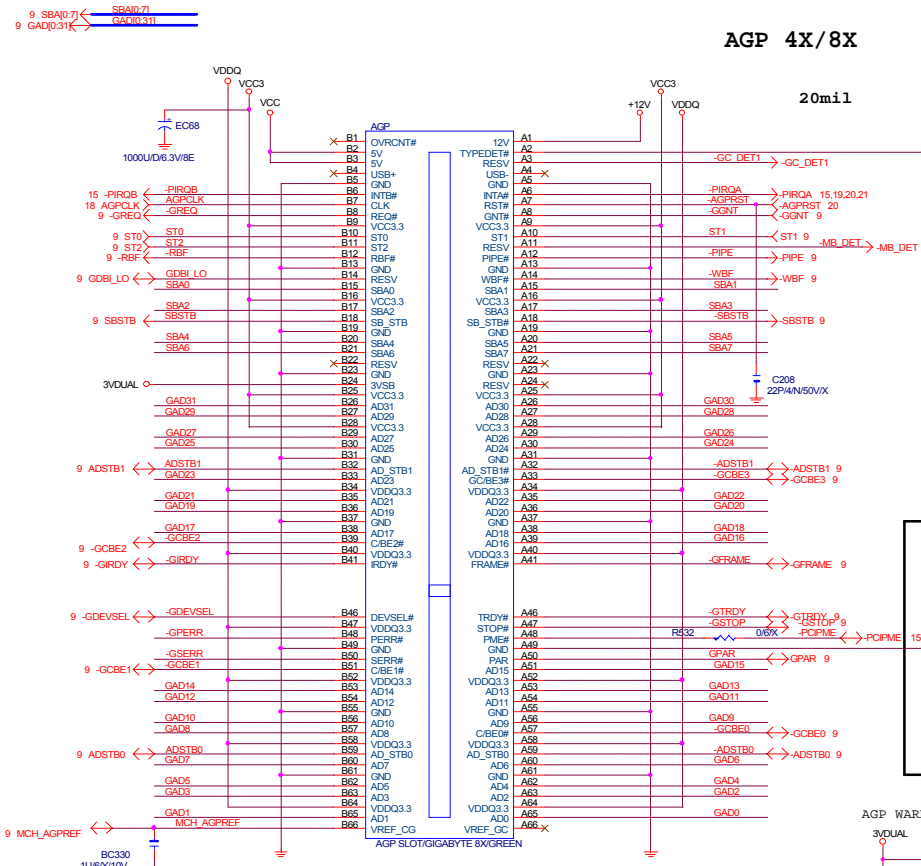


DDR25V Decouple

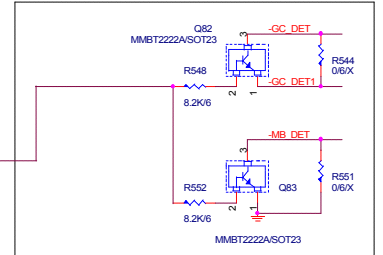
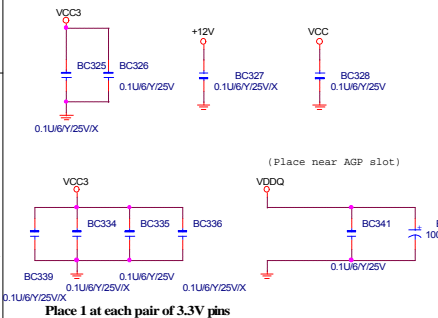


AGP 4X/8X

20mil



AGP_4X:	
ON	AGP 4X
OFF	AGP 8X



At least 15mil

GIGABYTE CORP.

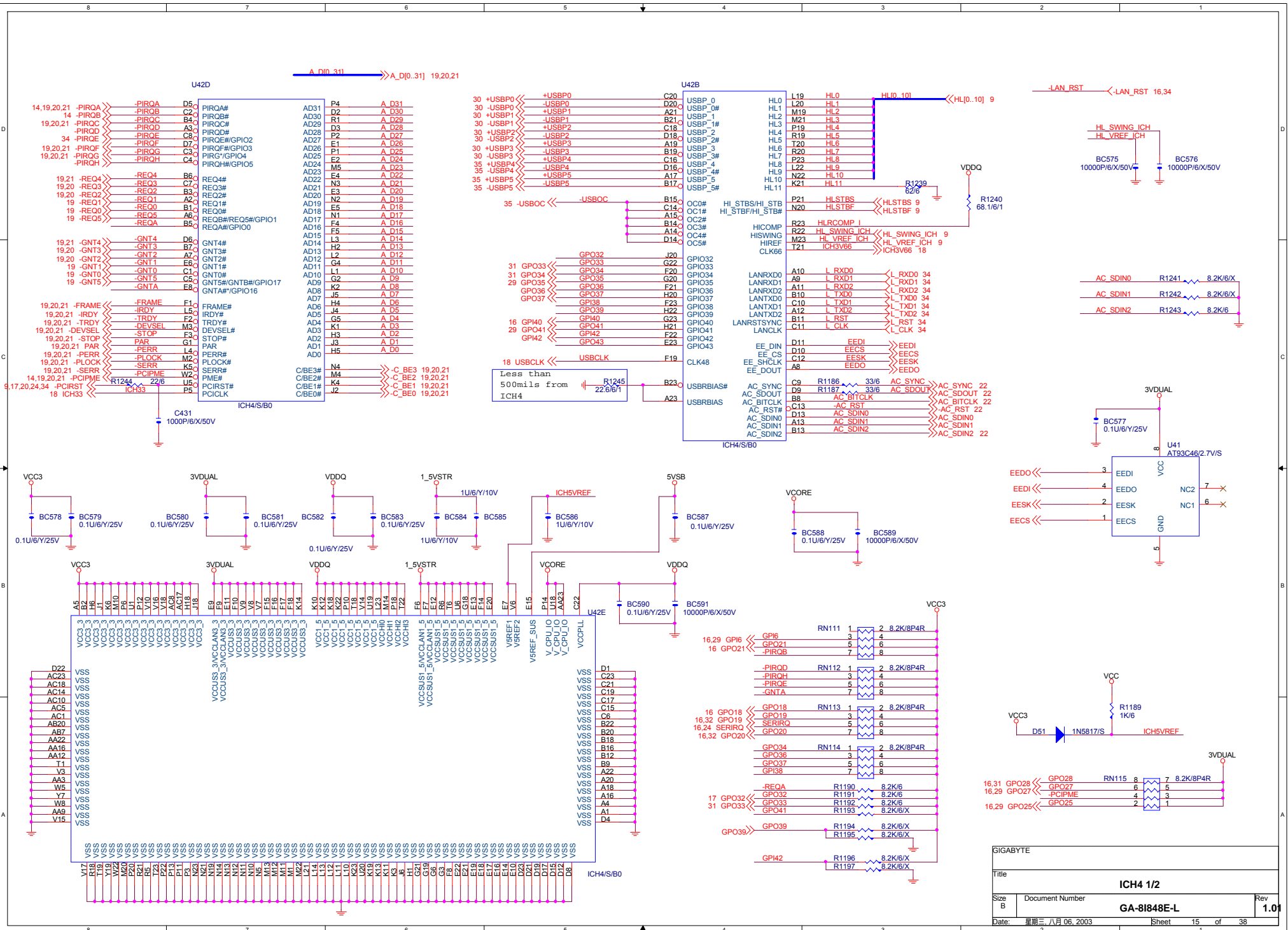
AGP SLOT

GA-81848E-L

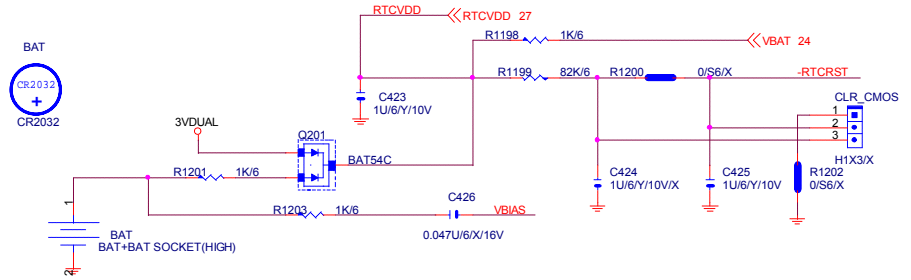
Rev 1.01

Date: 星期三, 八月 06, 2003 Sheet 14 of 38

Note: 1.GPO pin must power on default High

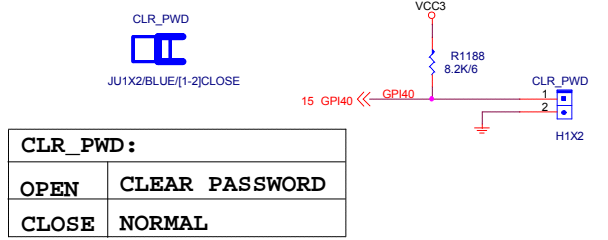


GIGABYTE		
Title		
ICH4 1/2		
Size	Document Number	Rev
B	GA-81848E-L	1.0
Date:	星期三, 八月 06, 2003	Sheet 15 of 38



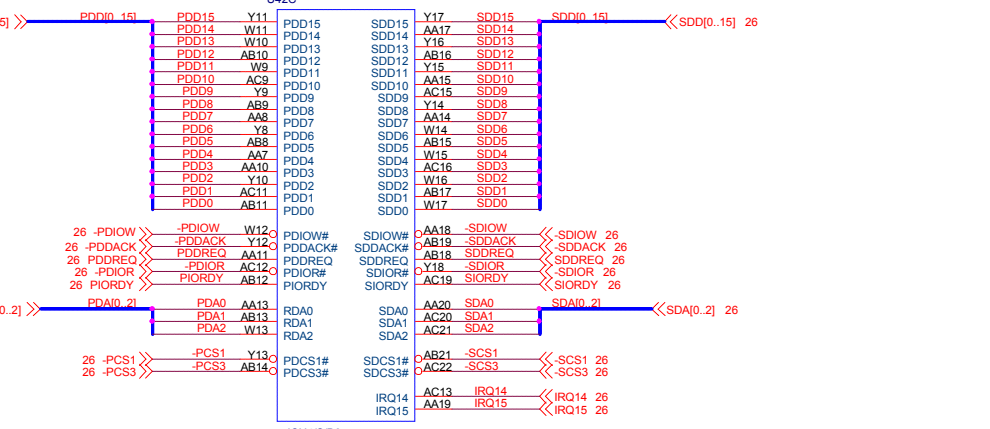
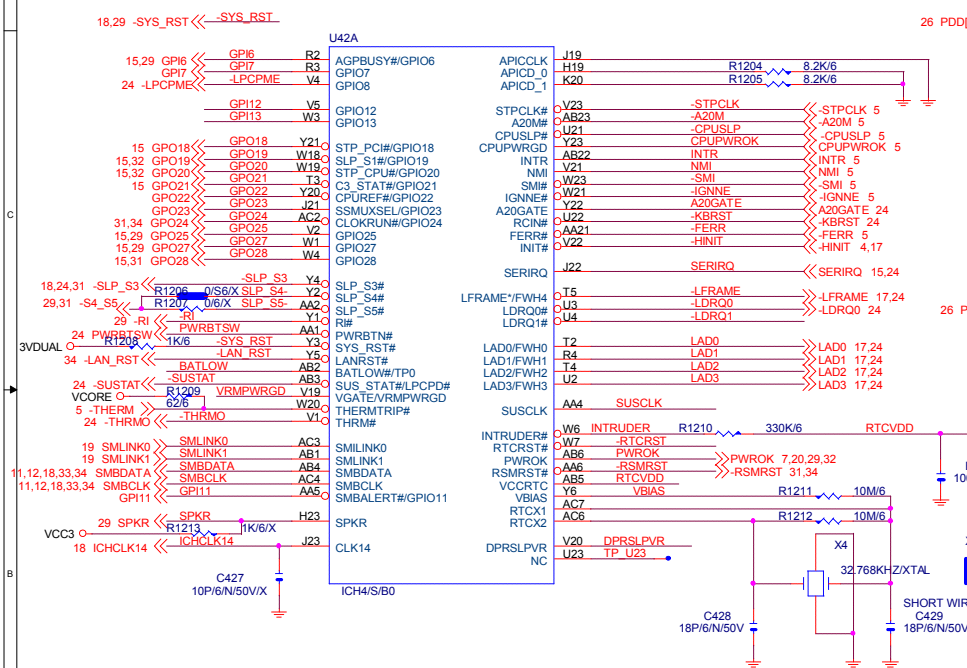
CLR_CMOS :

1-2	CLEAR CMOS
2-3	NORMAL

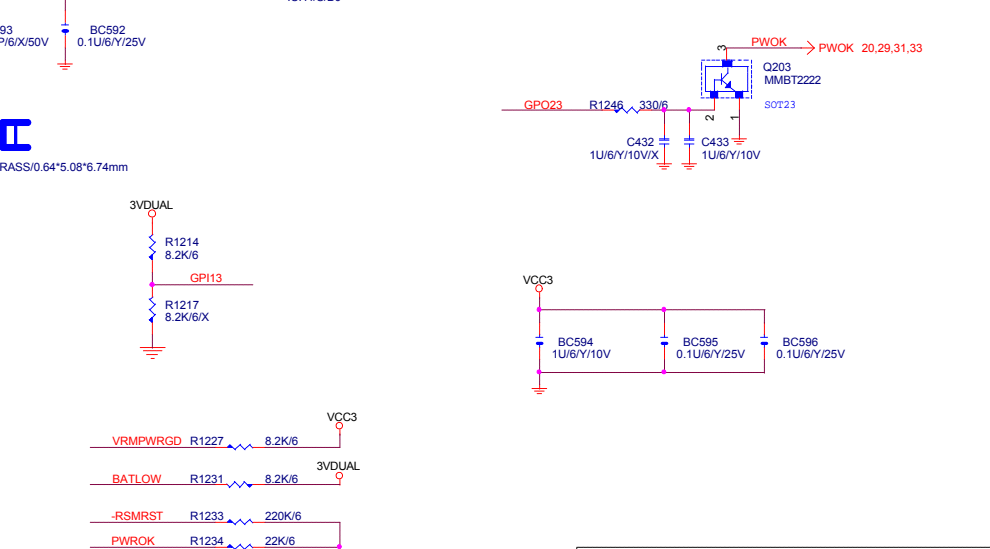
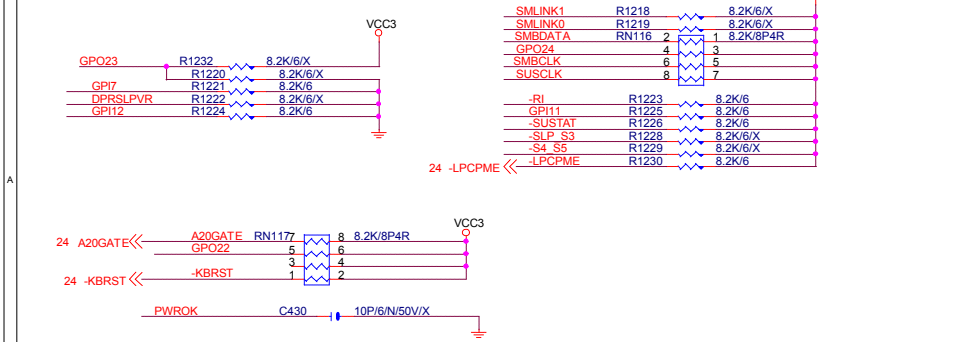


CLR_PWD :

OPEN	CLEAR PASSWORD
CLOSE	NORMAL

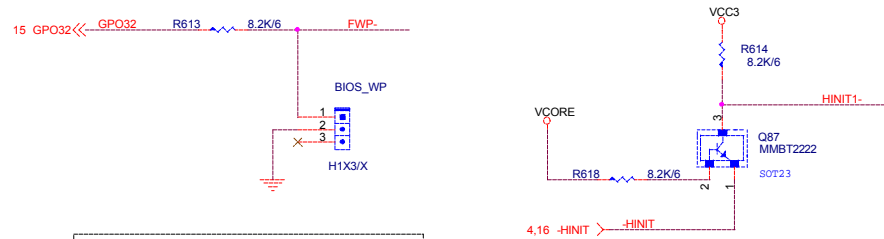


SMLINK0 R1215 0/S6/X SMBCLK
SMLINK1 R1216 0/S6/X SMBDATA

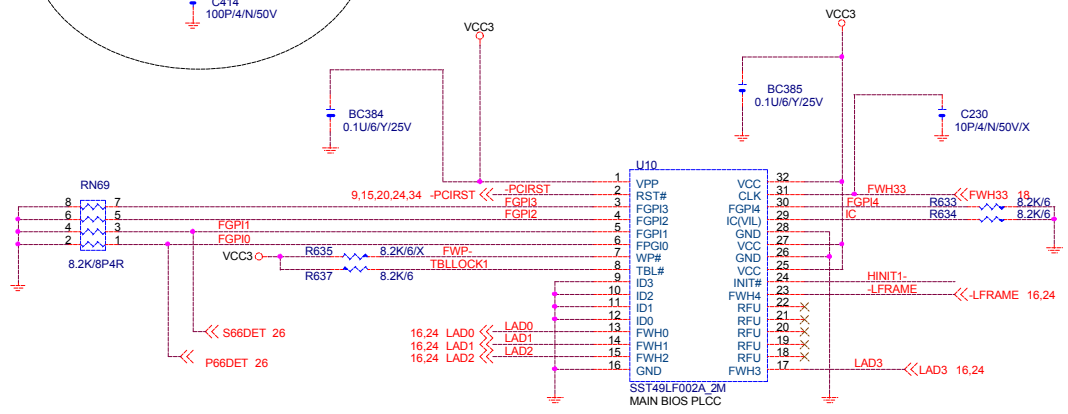
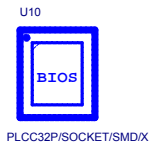
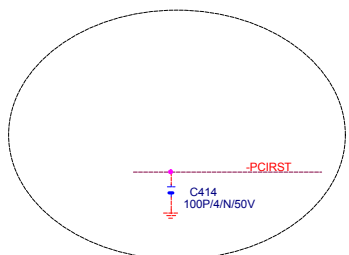


GIGABYTE

Title			ICH4 2/2		
Size	Document Number			Rev	1.0
Custom	GA-81848E-L				
Date:	星期三, 八月 06, 2003	Sheet	16	of	38

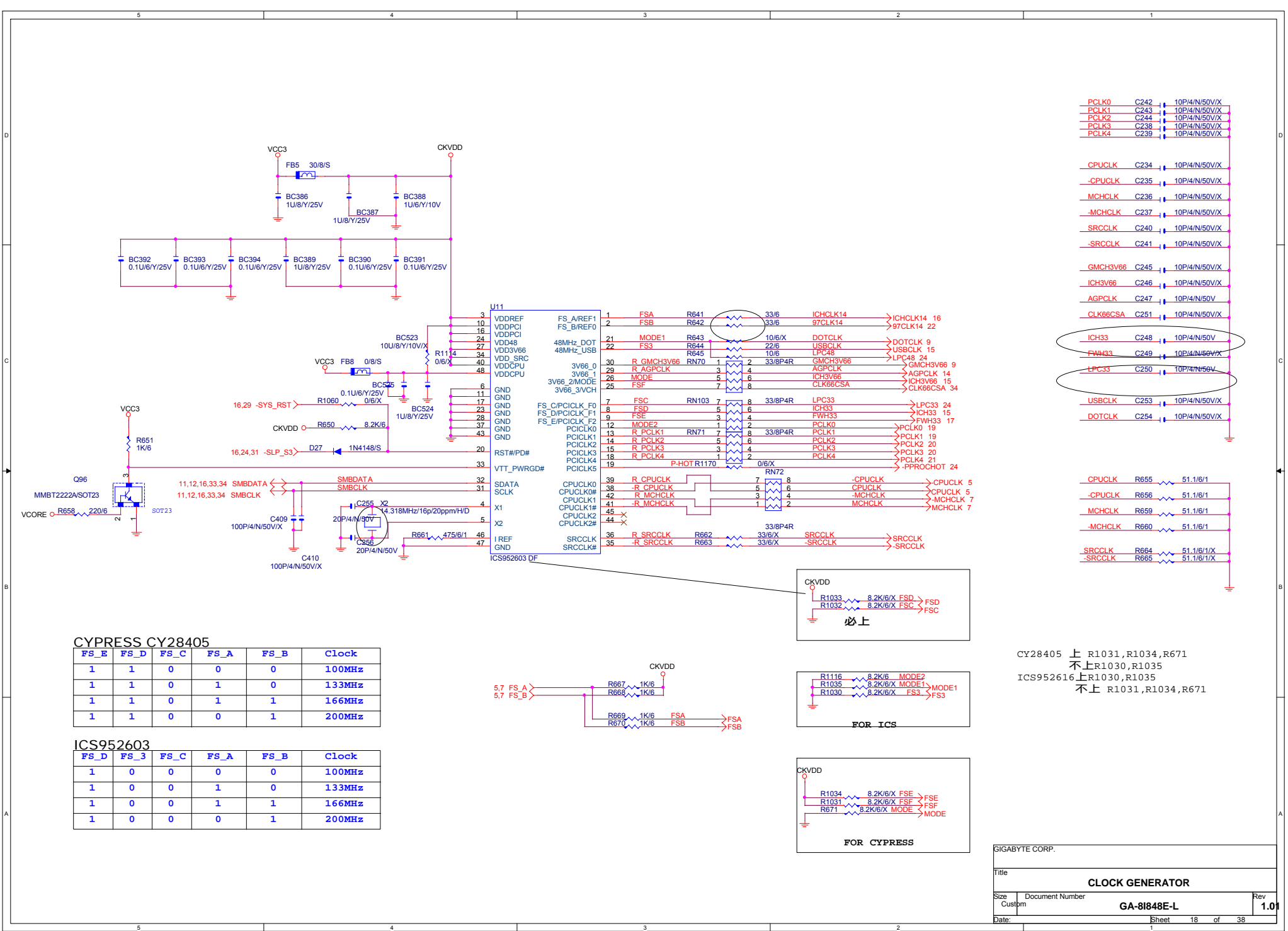


BIOS_WP:	
1-2	WRITE PROTECT
2-3	DISABLE



ADD WINBOUD FWH SEC. SOURCE

GIGABYTE CORP.		
Title		
FWH		
Size	Document Number	Rev
B	GA-81848E-L	1.01
Date:	星期三, 八月 06, 2003	Sheet 17 of 38



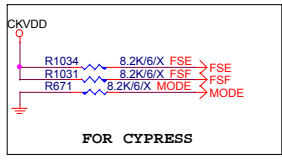
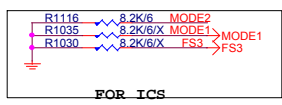
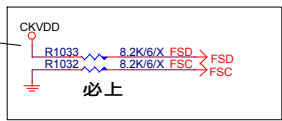
- PCLK0 C242 10P/4/N/50V/X
- PCLK1 C243 10P/4/N/50V/X
- PCLK2 C244 10P/4/N/50V/X
- PCLK3 C238 10P/4/N/50V/X
- PCLK4 C239 10P/4/N/50V/X
- CPUCLK C234 10P/4/N/50V/X
- CPUCLK C235 10P/4/N/50V/X
- MCHCLK C236 10P/4/N/50V/X
- MCHCLK C237 10P/4/N/50V/X
- SRCLK C240 10P/4/N/50V/X
- SRCLK C241 10P/4/N/50V/X
- GMCH3V66 C245 10P/4/N/50V/X
- ICH3V66 C246 10P/4/N/50V/X
- AGPCLK C247 10P/4/N/50V
- CLK66CSA C251 10P/4/N/50V/X
- ICH33 C248 10P/4/N/50V
- FWH33 C249 10P/4/N/50V/X
- LPC33 C250 10P/4/N/50V
- USBCLK C253 10P/4/N/50V/X
- DOTCLK C254 10P/4/N/50V/X
- CPUCLK R655 51.1/6/1
- CPUCLK R656 51.1/6/1
- MCHCLK R659 51.1/6/1
- MCHCLK R660 51.1/6/1
- SRCLK R664 51.1/6/1/X
- SRCLK R665 51.1/6/1/X

CYPRESS CY28405

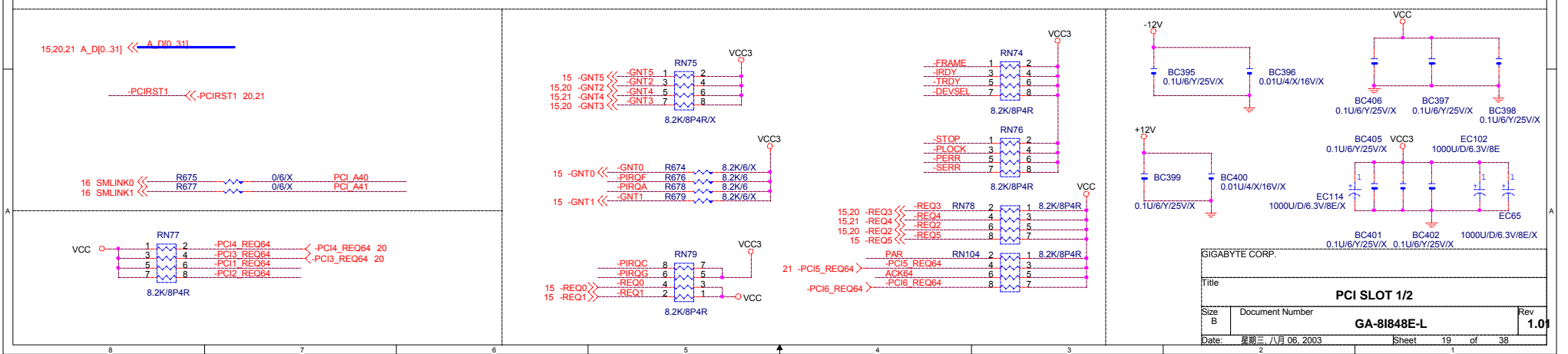
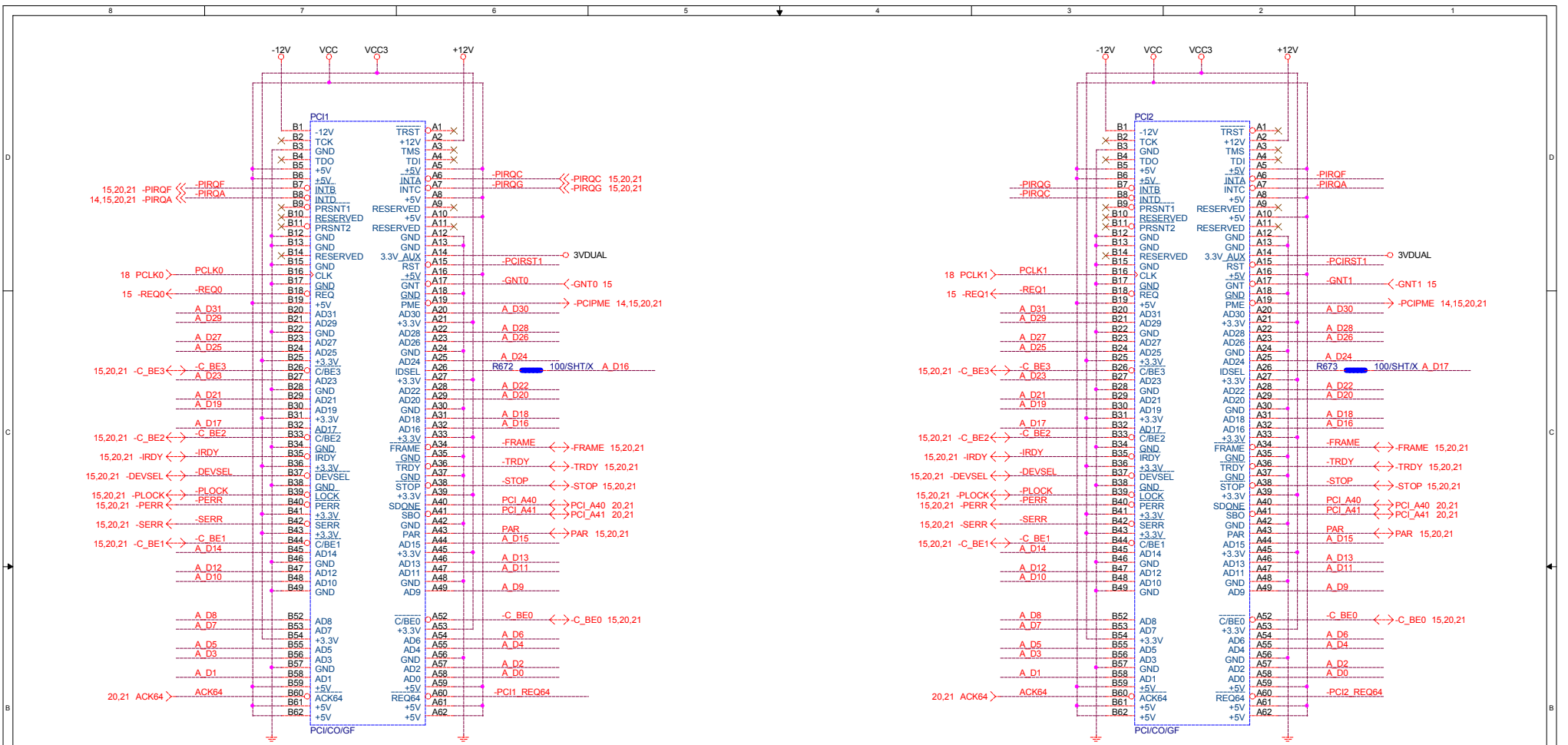
FS_E	FS_D	FS_C	FS_A	FS_B	Clock
1	1	0	0	0	100MHz
1	1	0	1	0	133MHz
1	1	0	1	1	166MHz
1	1	0	0	1	200MHz

ICS952603

FS_D	FS_3	FS_C	FS_A	FS_B	Clock
1	0	0	0	0	100MHz
1	0	0	1	0	133MHz
1	0	0	1	1	166MHz
1	0	0	0	1	200MHz

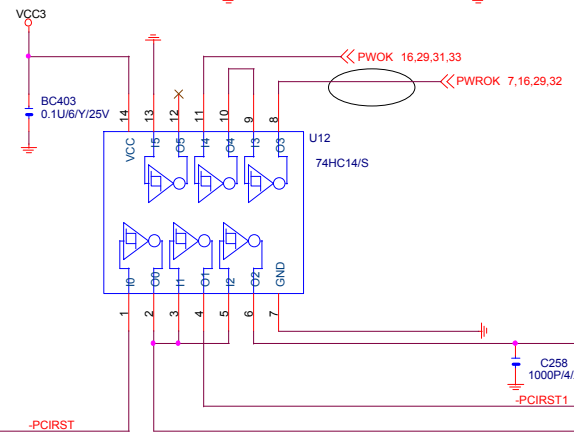
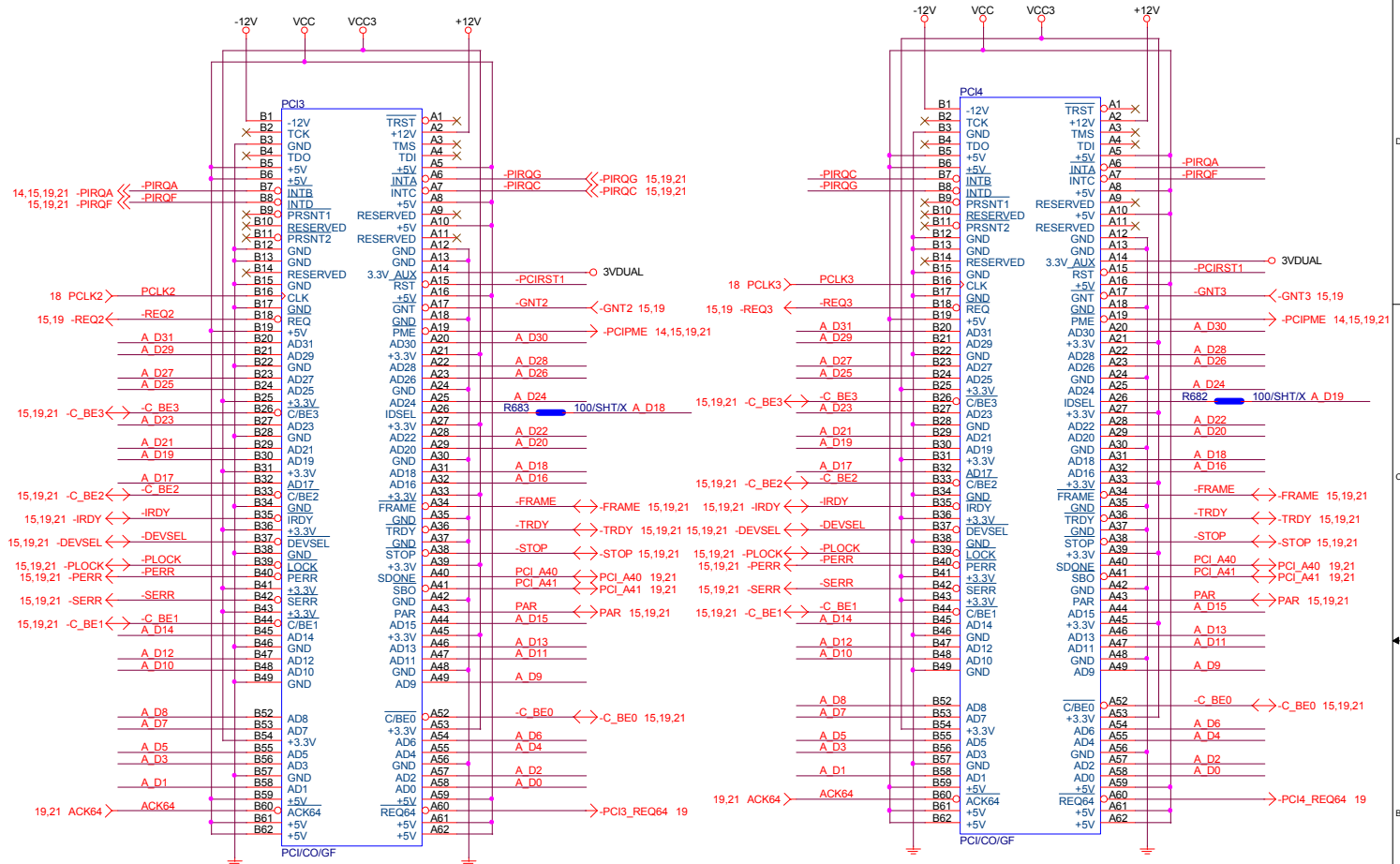


CY28405 上 R1031,R1034,R671
 不上 R1030,R1035
 ICS952616 上 R1030,R1035
 不上 R1031,R1034,R671



GIGABYTE CORP.			
Title			
PCI SLOT 1/2			
Size	Document Number	Rev	
B	GA-81848E-L	1.01	
Date:	星期三, 八月 06, 2003	Sheet	19 of 38

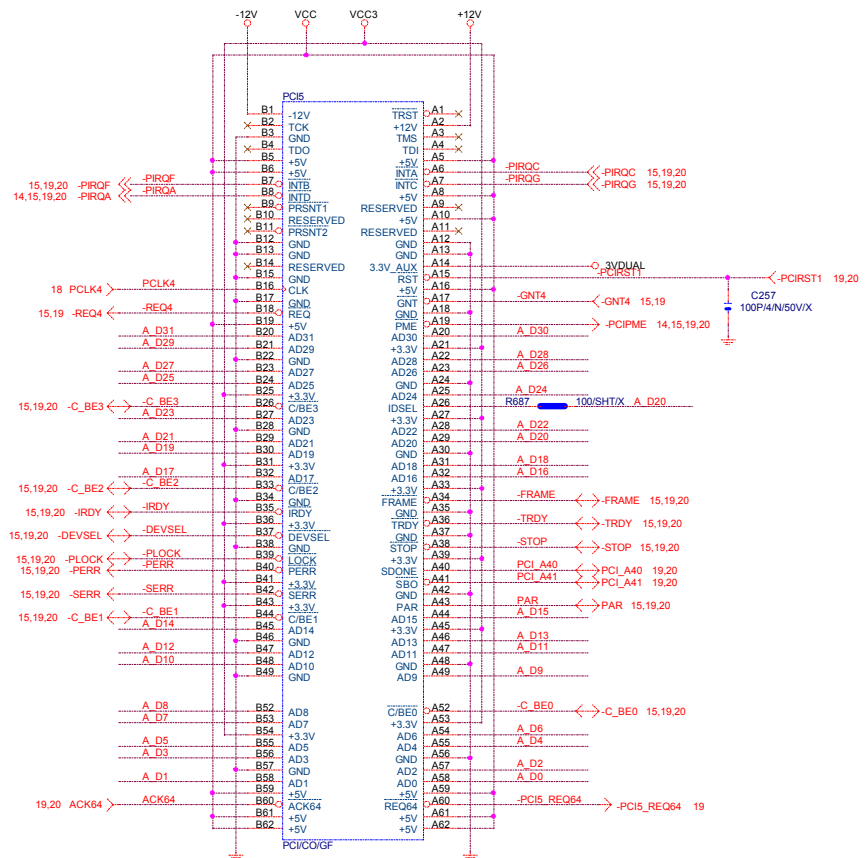
15,19,21 A_D[0..31] <-> A_D[0..31]



9,15,17,24,34 <-> PCIRST
 <-> PCIRST1 19,21
 <-> IDERST 26

GIGABYTE CORP.		
Title PCI SLOT 3/4		
Size B	Document Number GA-81848E-L	Rev 1.0
Date: 2003.08.06	Sheet 20	of 38

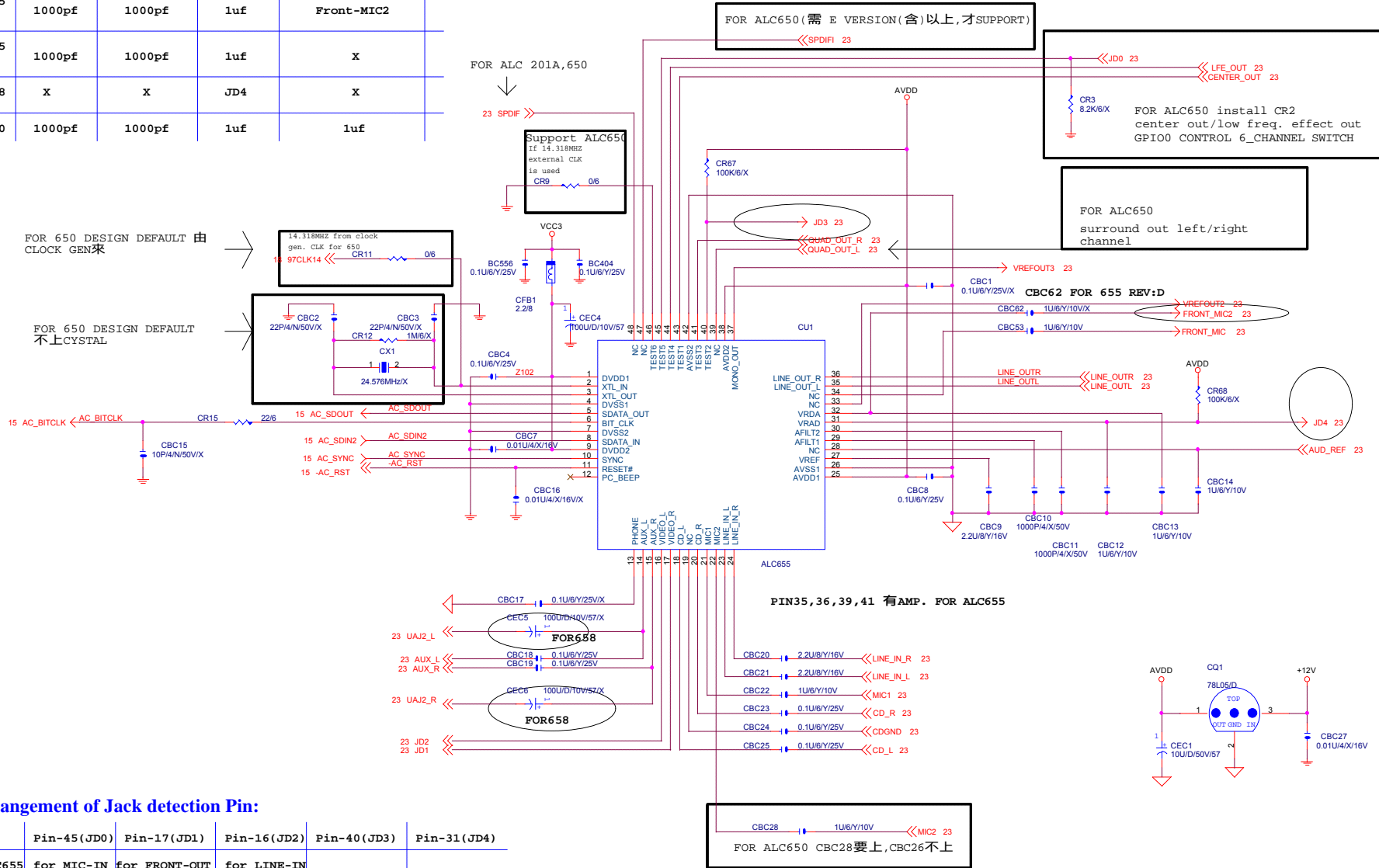
15,19,20_A_D[0..31] << A_D[0..31]



GIGABYTE CORP.			
Title			
PCI SLOT 5/6			
Size	Document Number	Rev	
Custom	GA-81848E-L	1.01	
Date:	星期二, 八月 06, 2003	Sheet	21 of 38

Filter Cap design:

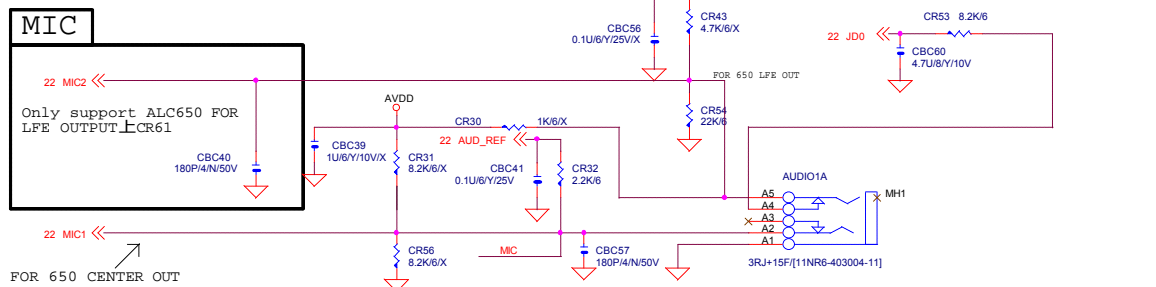
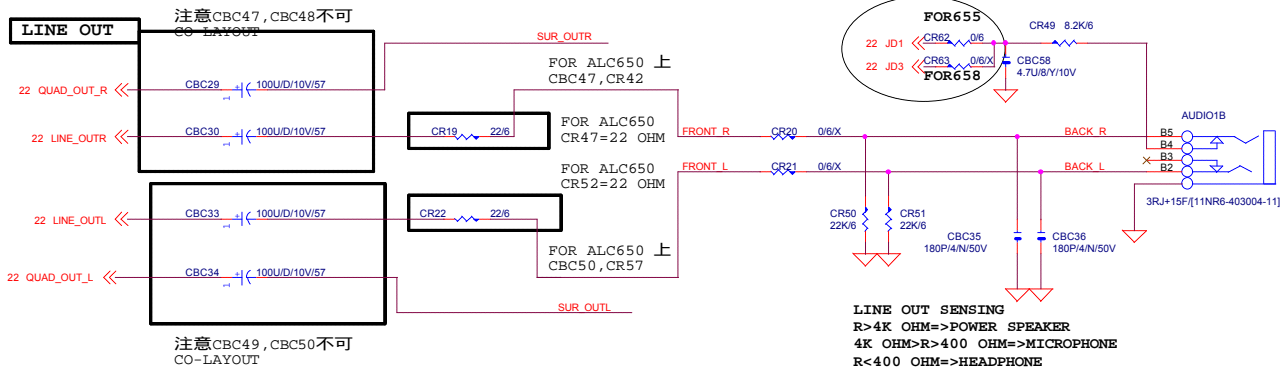
	Pin-29	Pin-30	Pin-31	Pin-32
ALC655 Rev D	1000pf	1000pf	1uf	Front-MIC2
ALC655 Rev C	1000pf	1000pf	1uf	X
ALC658	X	X	JD4	X
ALC650	1000pf	1000pf	1uf	1uf



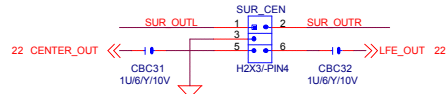
Arrangement of Jack detection Pin:

	Pin-45(JD0)	Pin-17(JD1)	Pin-16(JD2)	Pin-40(JD3)	Pin-31(JD4)
ALC655	for MIC-IN	for FRONT-OUT	for LINE-IN		
ALC658	for MIC-IN	for UAJ1	for UAJ2	for FRONT-OUT	for LINE-IN External pull high is needed

JDO,JD2,GPIO0 為偵測DEVICE INPUT 時由LOW TO HIGH Edge trigger(pop manual) 1/2(3.14)RC=1/2(3.14)8.2K*4.7U=4.3HZ以上AC 信號全部衰減 TO 0V 不會造成JDO 誤動作(無device 時play wav)



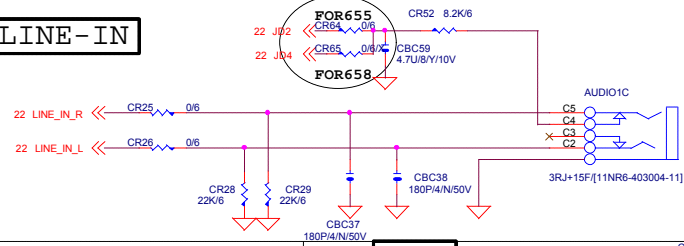
FOR SUPPORT 6 CHANNEL,
SURROUND OUT CENTER OUT, LOW
FREQUENCY EFFECT OUT



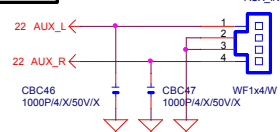
LINE IN SENSING(當OUTPUT)
R>4K OHM=>POWER SPEAKER
4K OHM>R>400 OHM=>MICROPHONE
R<400 OHM=>HEADPHONE

LINE IN SENSING(當INPUT)
swing of input signal>-40dbv(10mv)===>line in
device active
swing of input signal<-40dbv(10mv)===>unknown
line in device

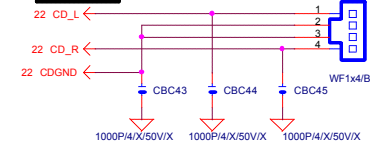
LINE-IN



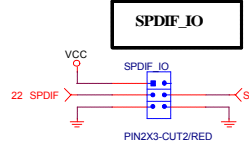
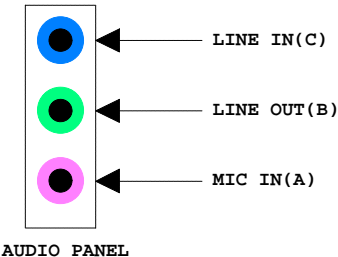
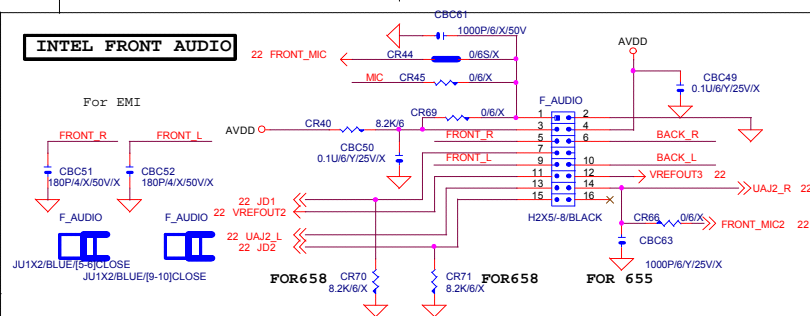
AUX IN DEFAULT NO POP



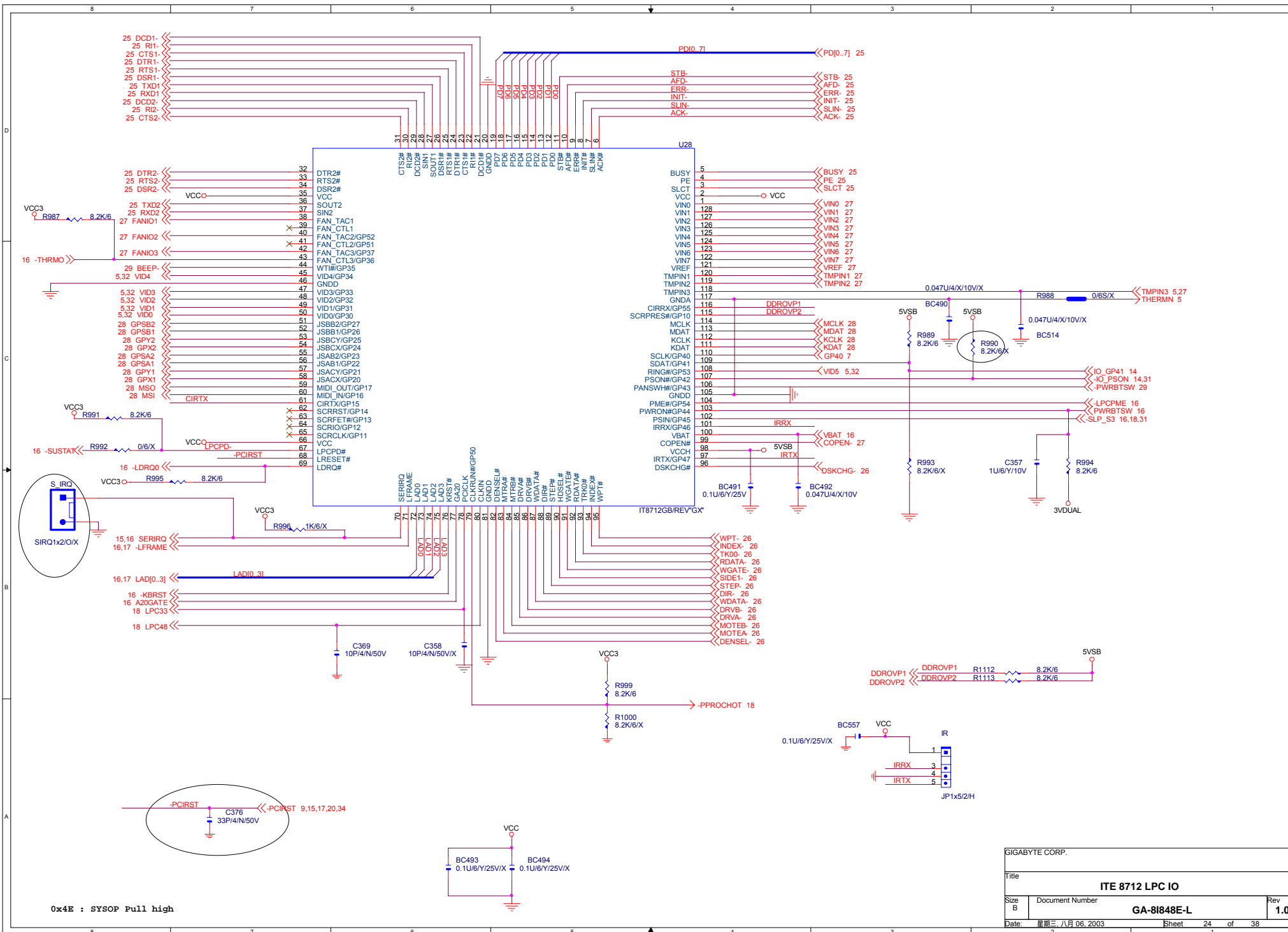
CD IN



INTEL FRONT AUDIO

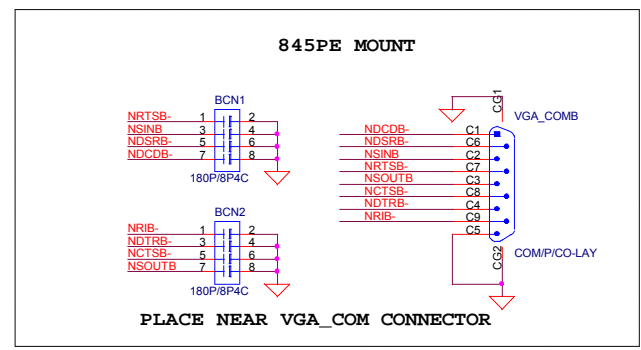
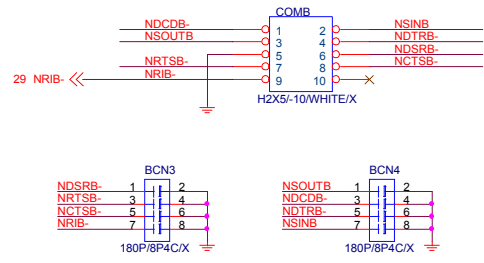
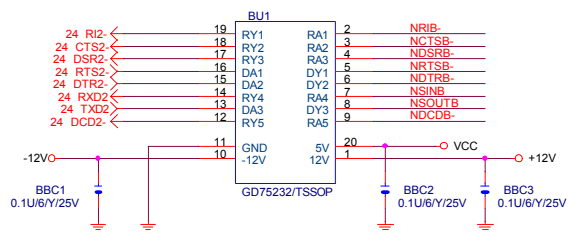
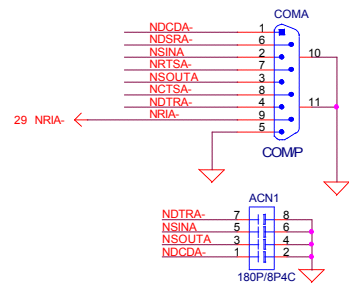
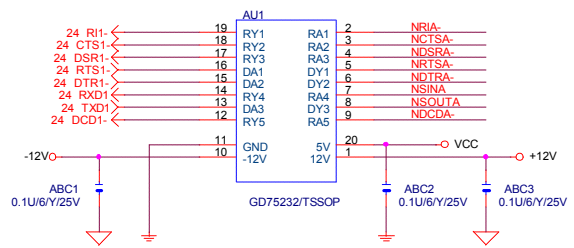


GIGABYTE CORP.			
AUDIO OUTPUT, GAME PORT			
Title	Document Number	Rev	
Size	GA-81848E-L	1.01	
Custom			
Date	星期二, 八月 06, 2003	Sheet	23 of 38

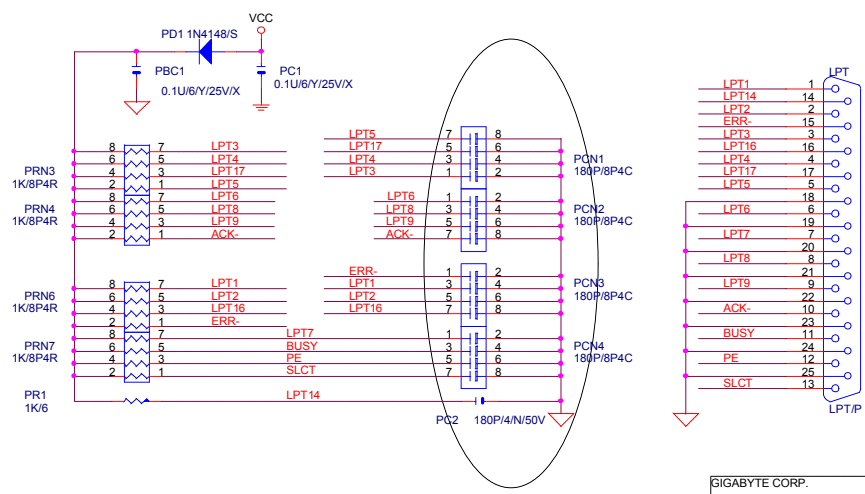
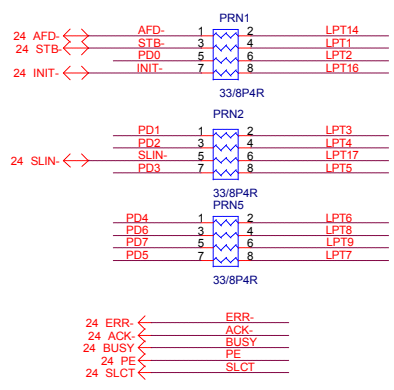


0x4E : SYSOP Pull high

GIGABYTE CORP.		
Title		
ITE 8712 LPC IO		
Size	Document Number	Rev
B	GA-8I848E-L	1.01
Date:	星期三, 八月 06, 2003	Sheet 24 of 38

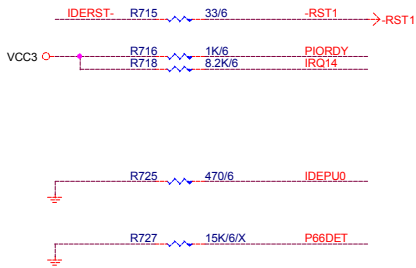
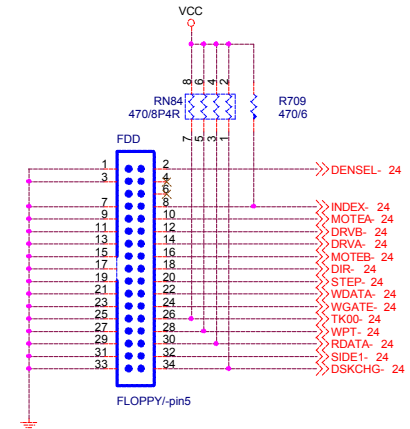
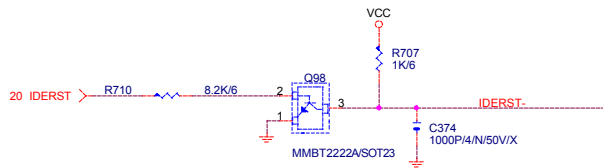


24 PD[0..7] ↔ PD[0..7]

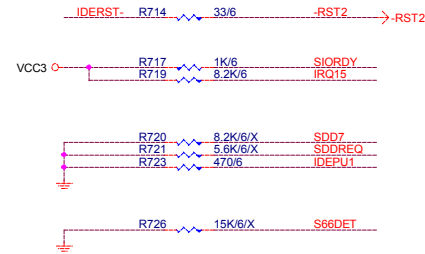


GIGABYTE CORP.

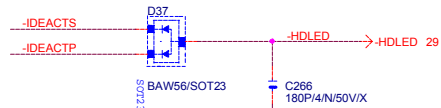
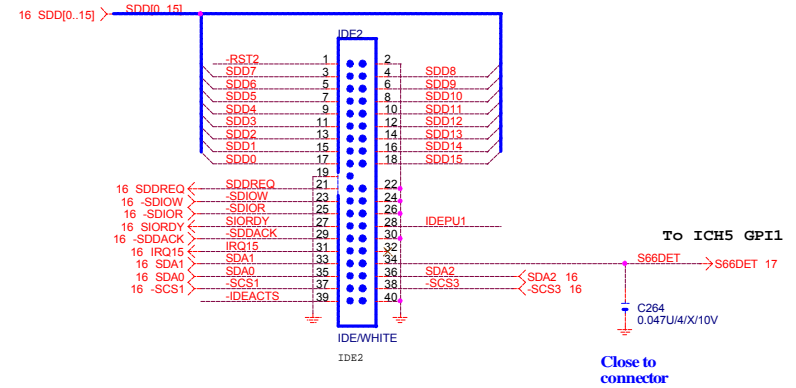
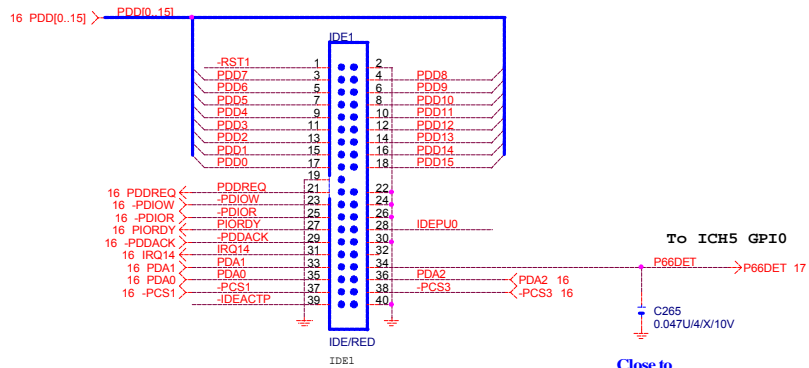
Title		
COM & IR & LPT PORT & FLOOPY		
Size	Document Number	Rev
B	GA-81848E-L	1.01
Date:	星期三, 八月 06, 2003	Sheet 25 of 38



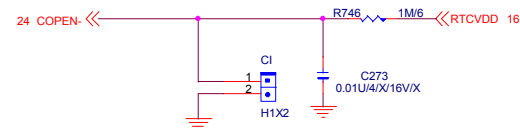
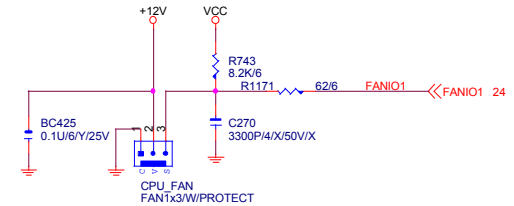
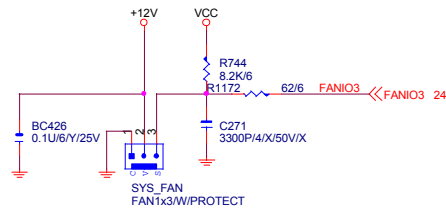
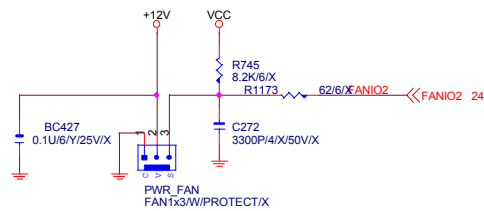
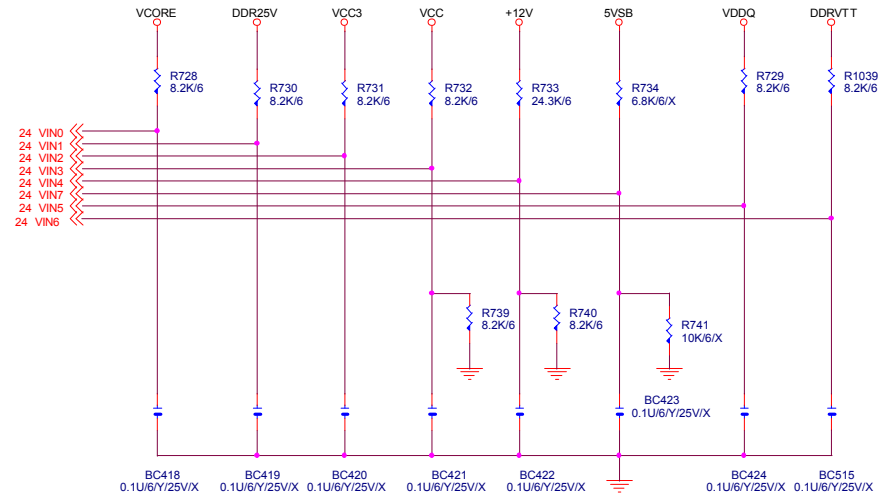
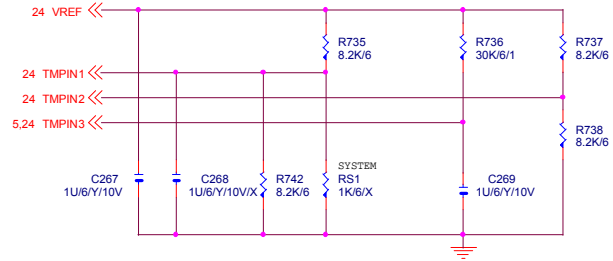
PRIMARY IDE CONNECTOR



SECONDARY IDE CONNECTOR

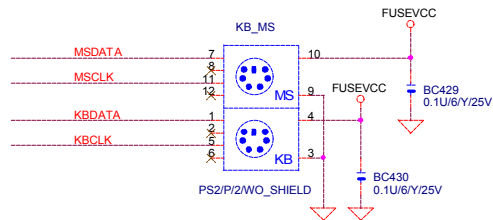
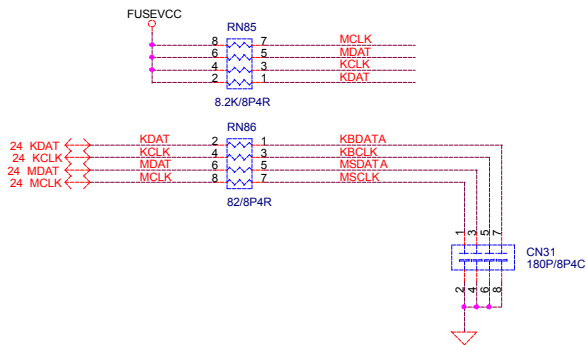
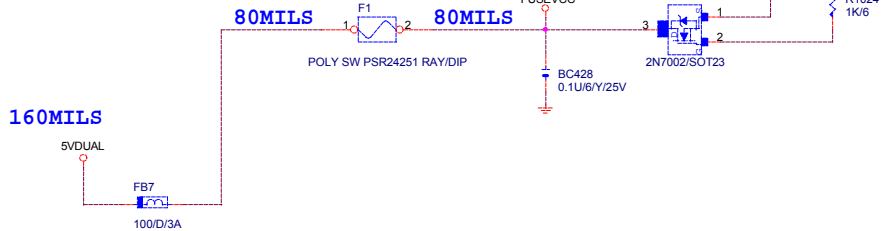
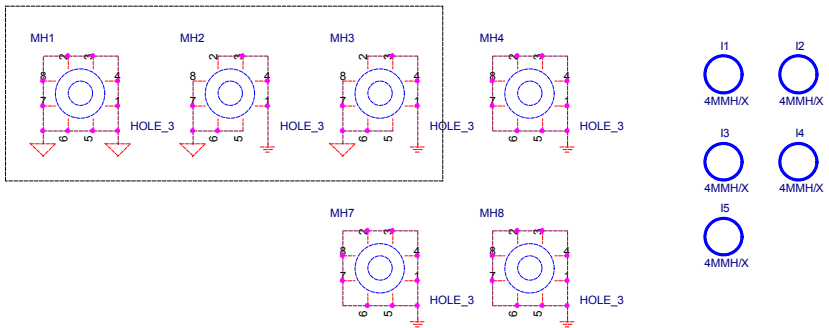


Hardware Monitor circuits

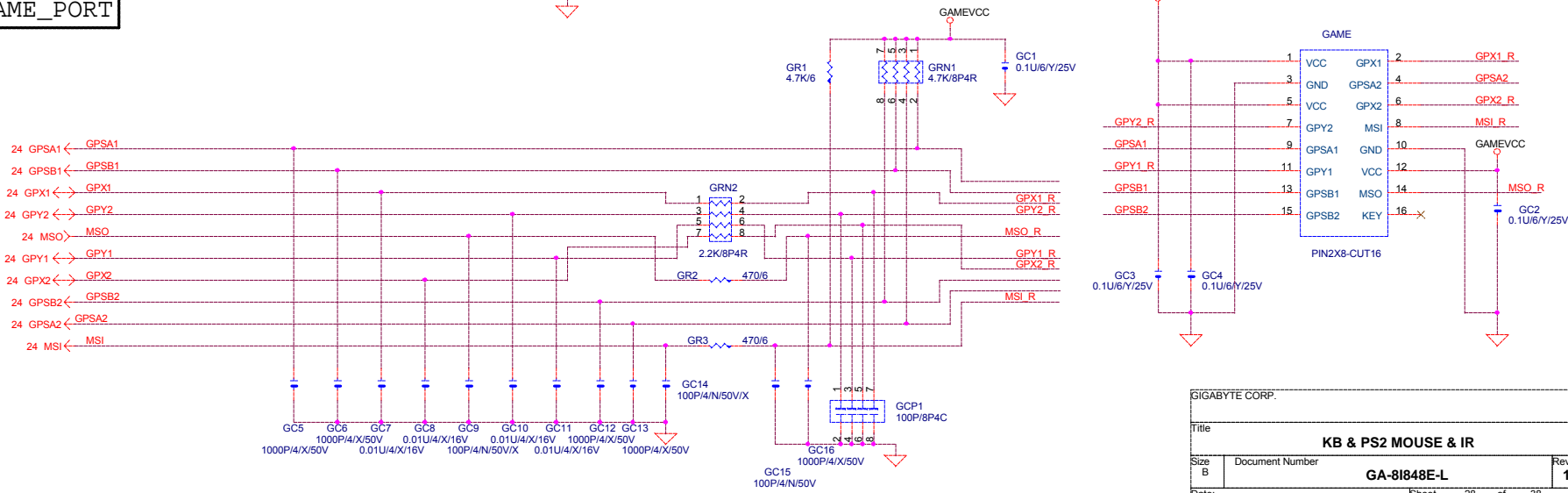


GIGABYTE CORP.			
Title			
FAN/HWMO			
Size	Document Number	Rev	
B	GA-8I848E-L	1.01	
Date:	星期三, 八月 06, 2003	Sheet	27 of 38
	2	1	

ATX AGND 與 GND 切割必須有三個

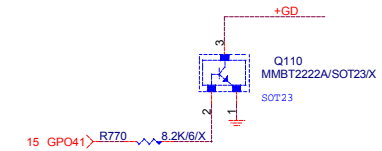
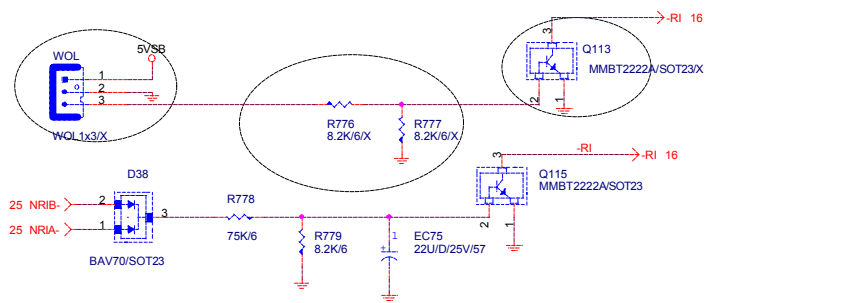
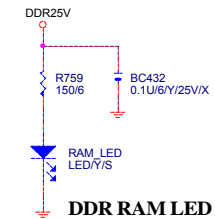
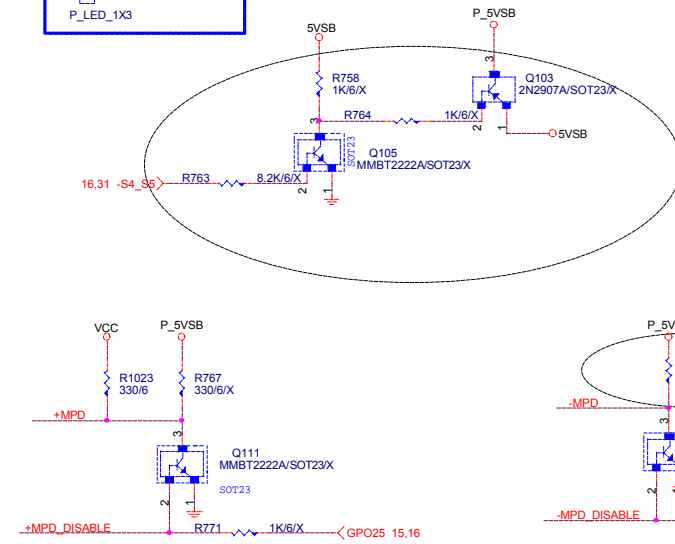
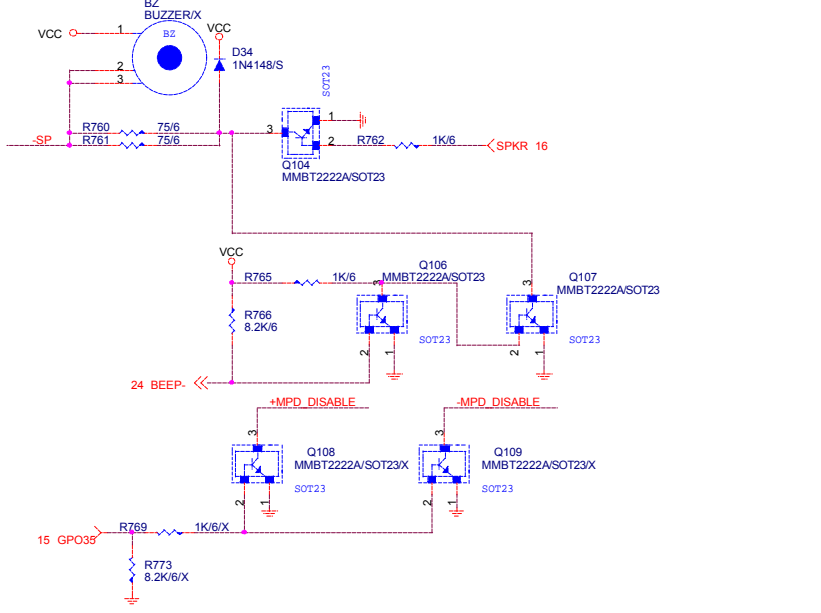
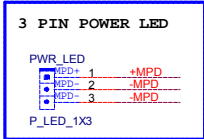
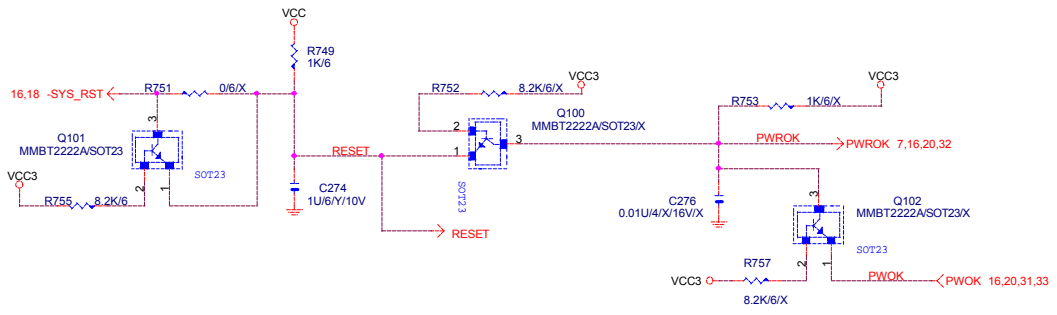
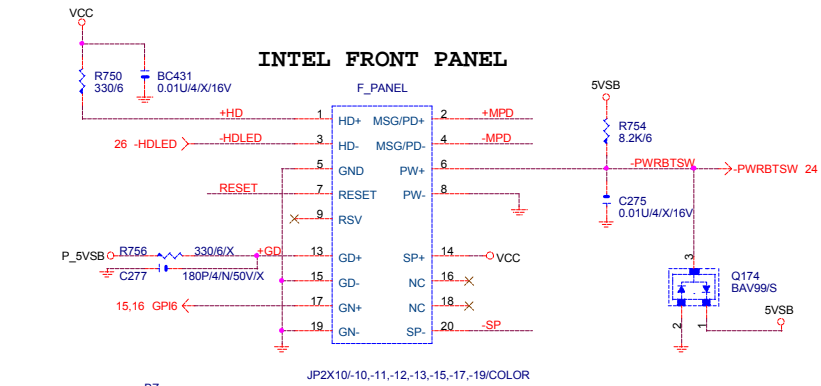


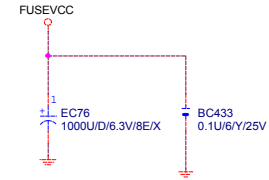
GAME_PORT



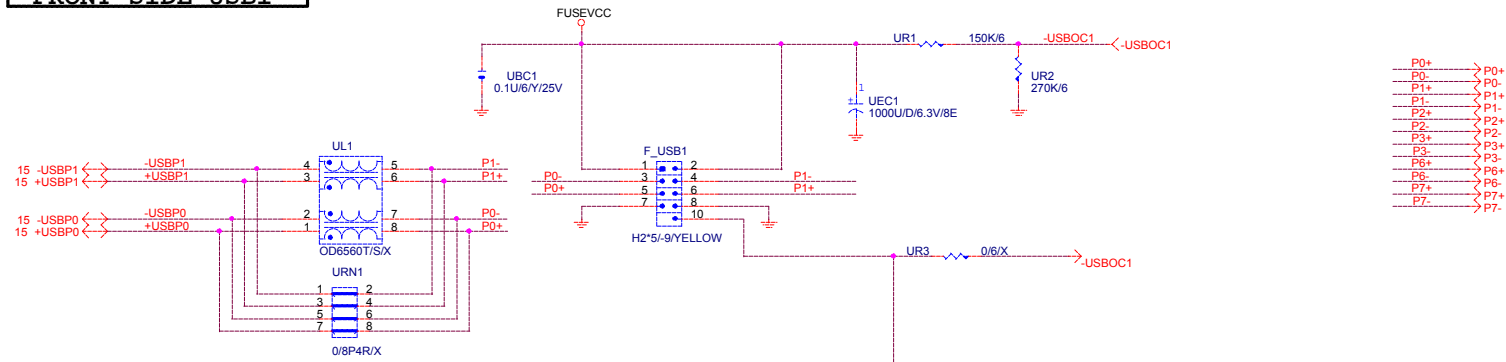
GIGABYTE CORP.		
Title		
KB & PS2 MOUSE & IR		
Size	Document Number	Rev
B	GA-8I848E-L	1.01
Date:	Sheet 28	of 38

INTEL FRONT PANEL

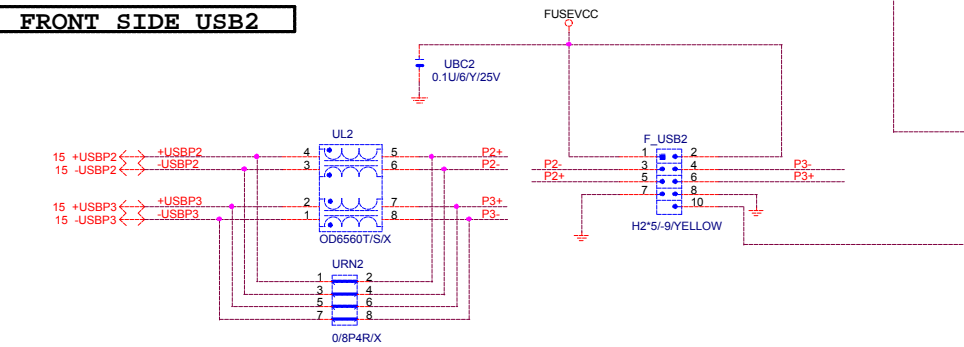




FRONT SIDE USB1

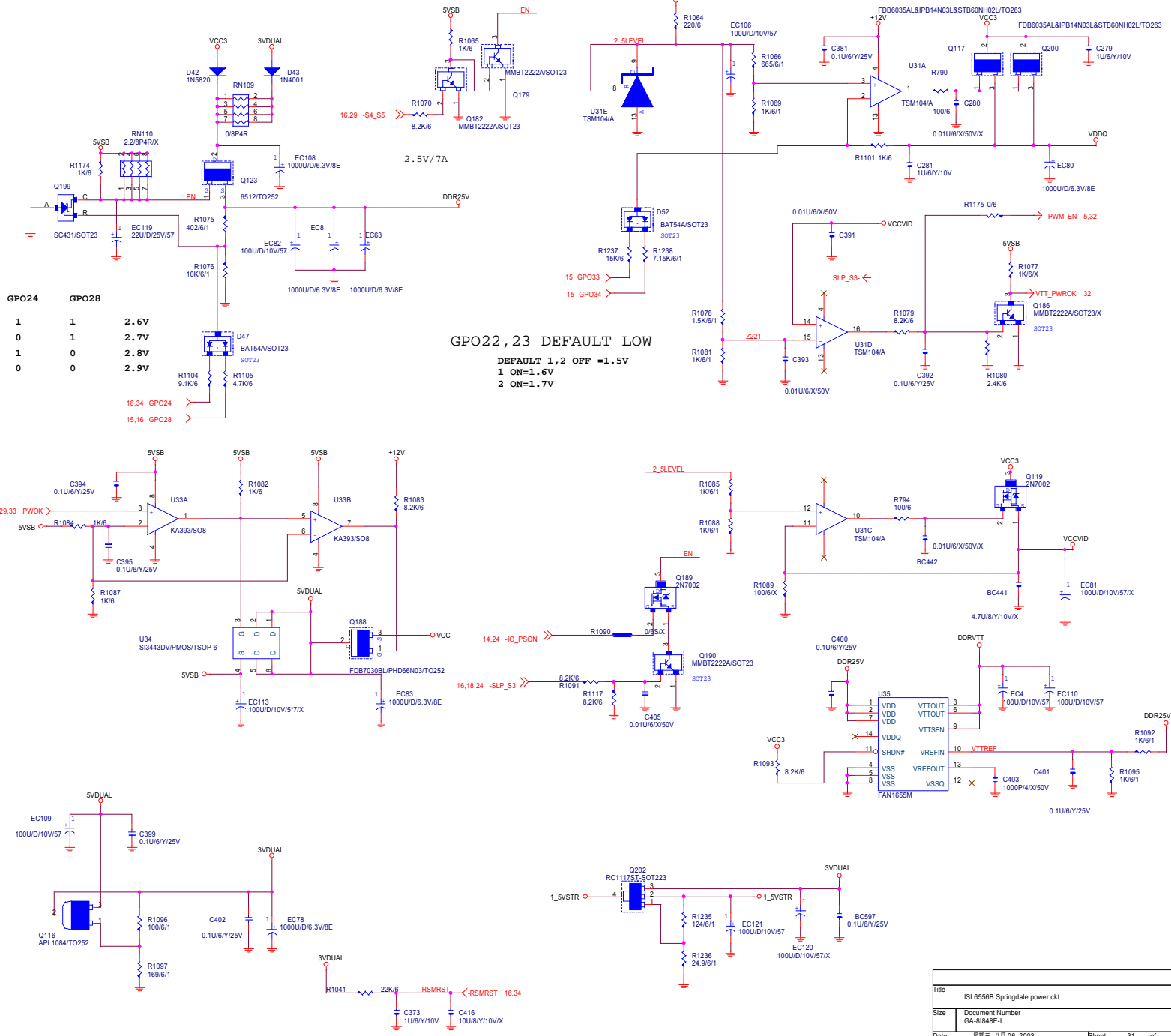


FRONT SIDE USB2

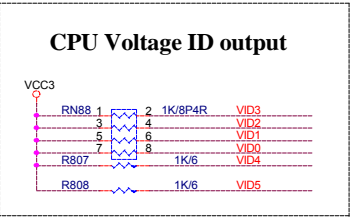


DDR25V FOR DDR DIMM & NB

VDDQ FOR AGP 4X/8X

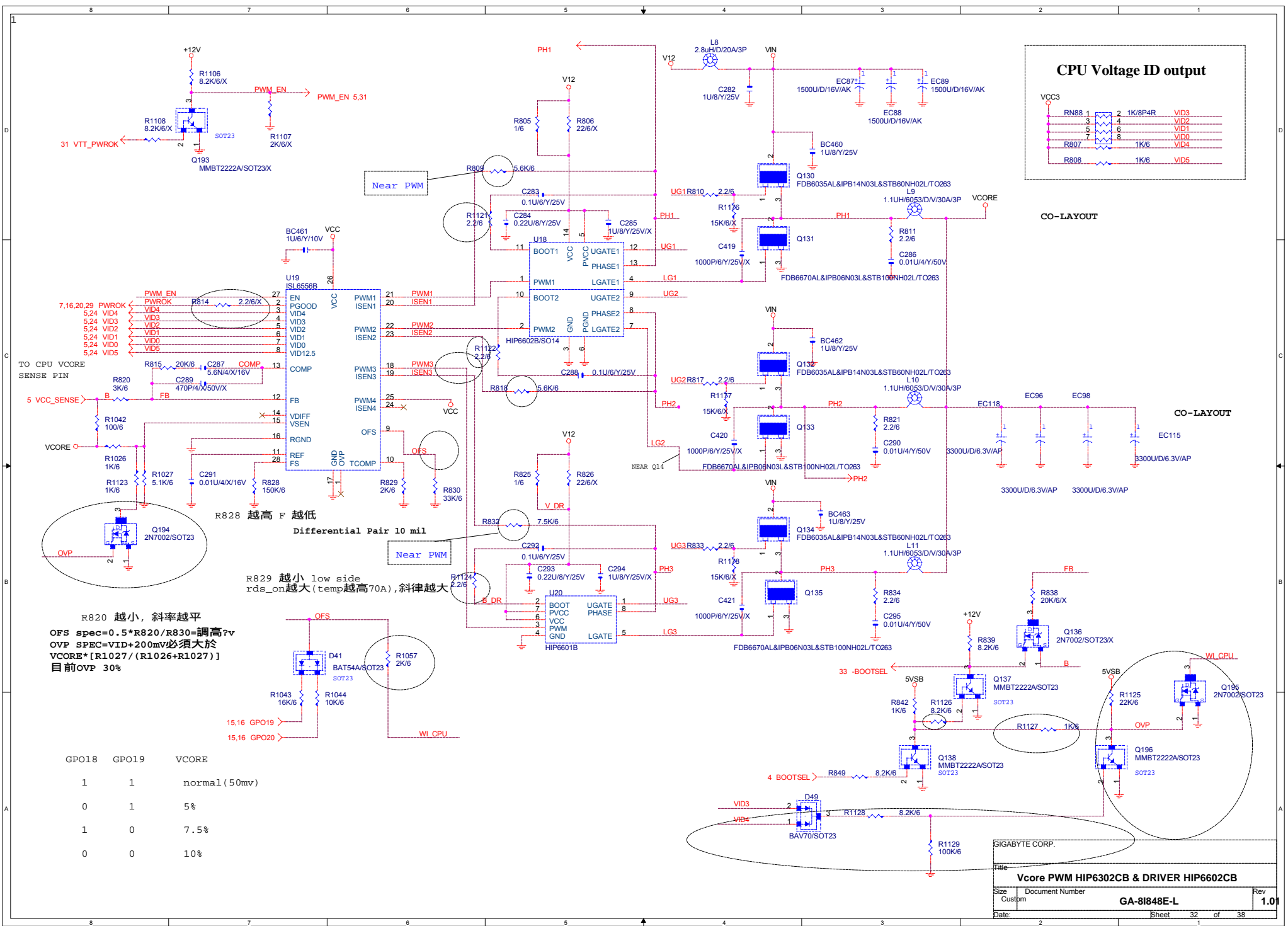


Title		ISL6556B Springdale power ckt
Size	Document Number	GA-81848E-L
Date:	Rev	1.01
Date: 三月 06, 2003		Esheet 31 of 38



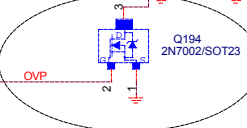
CO-LAYOUT

CO-LAYOUT



7,16,20,29 PWROK
5.24 VID4
5.24 VID3
5.24 VID2
5.24 VID1
5.24 VID0
5.24 VID5

TO CPU VCORE SENSE PIN
5 VCC_SENSE



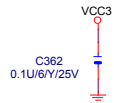
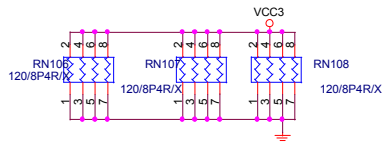
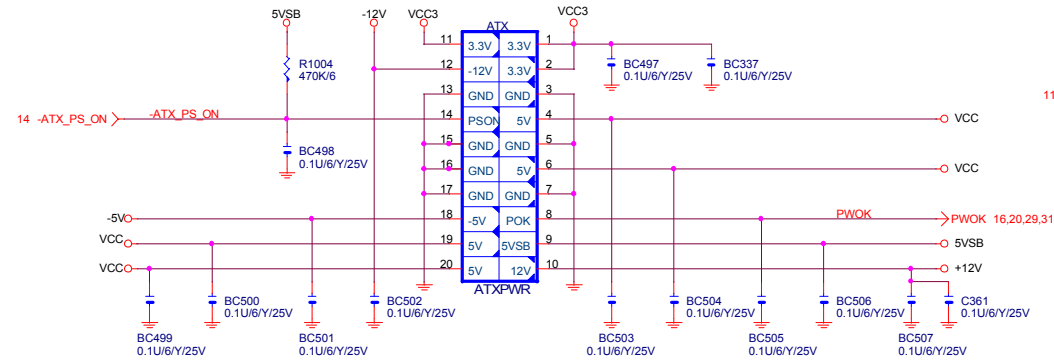
R820 越小, 斜率越平
OFS spec=0.5*R820/R830=調高?v
OVP SPEC=VID+200mv必須大於
VCORE*[R1027/(R1026+R1027)]
目前OVP 30%

R828 越高 F 越低

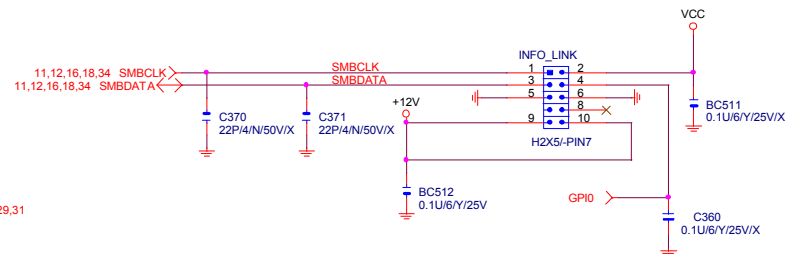
R829 越小 low side
rds_on 越大 (temp 越高 70A), 斜率越大

GPO18	GPO19	VCORE
1	1	normal (50mv)
0	1	5%
1	0	7.5%
0	0	10%

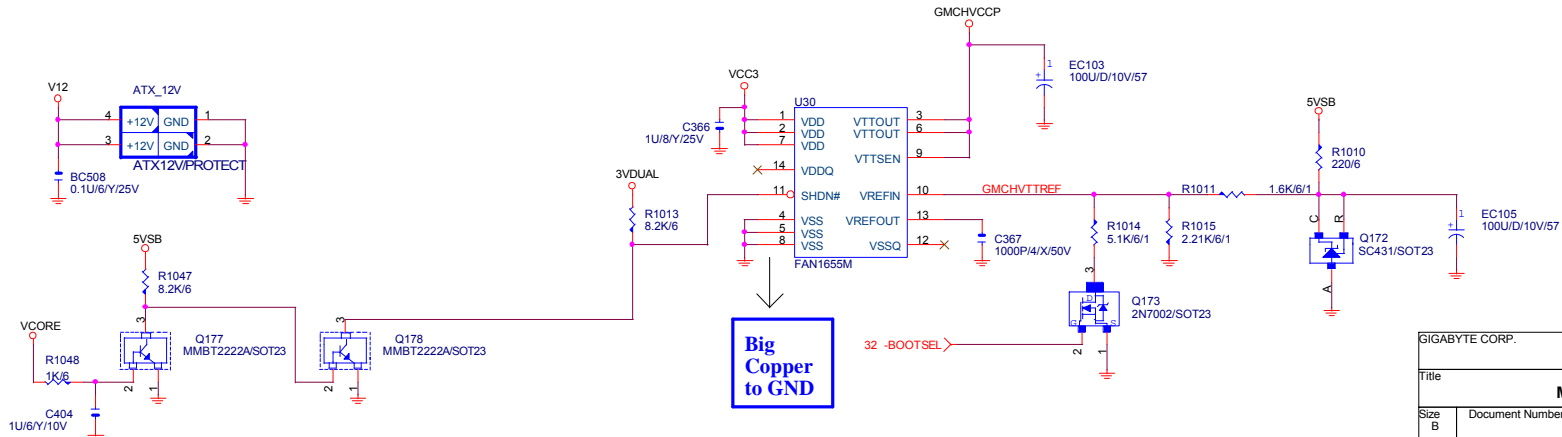
ATX POWER CONNECTOR



SMBUS CONN.

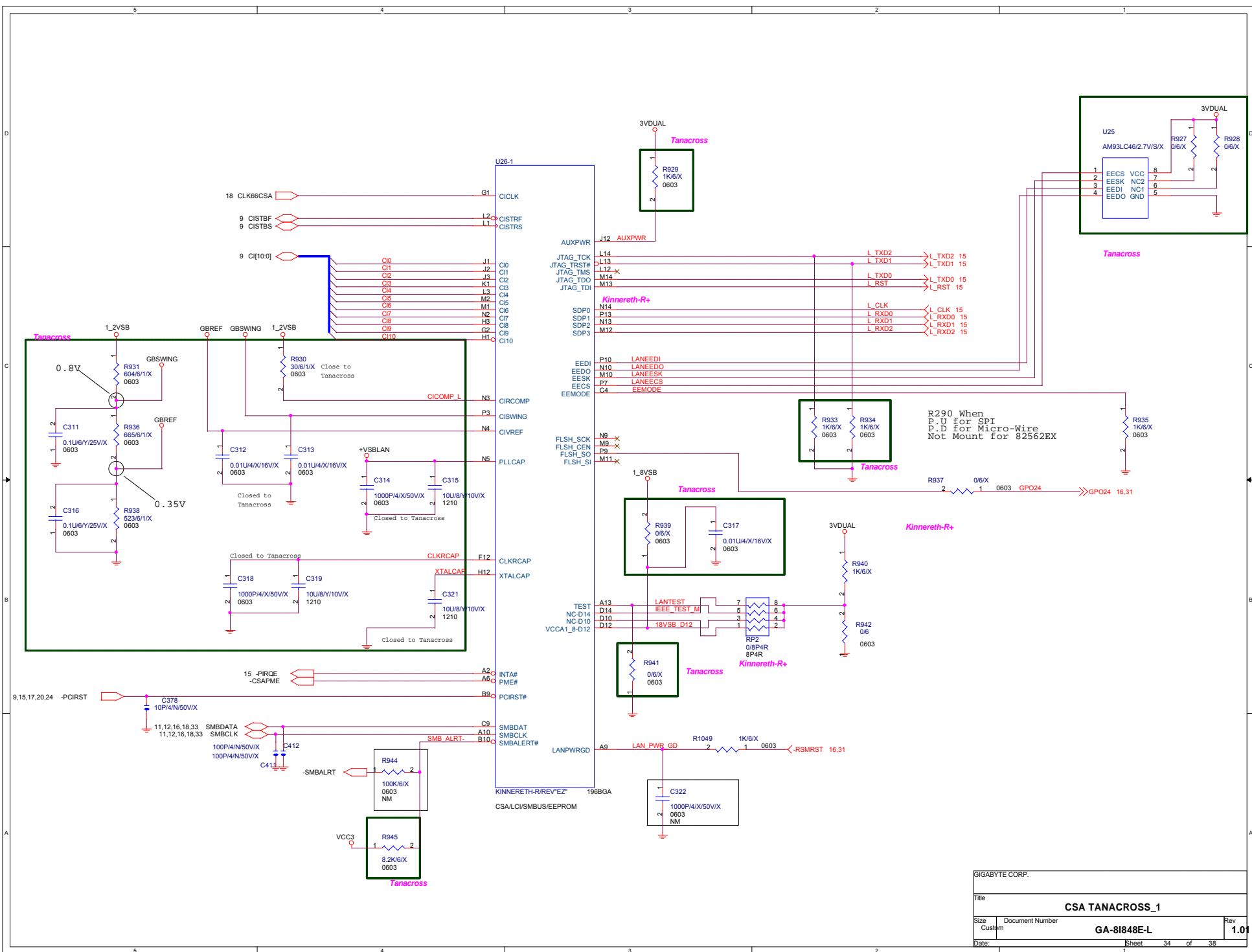


Northwood: +1.45V
 Prescott: +1.225V

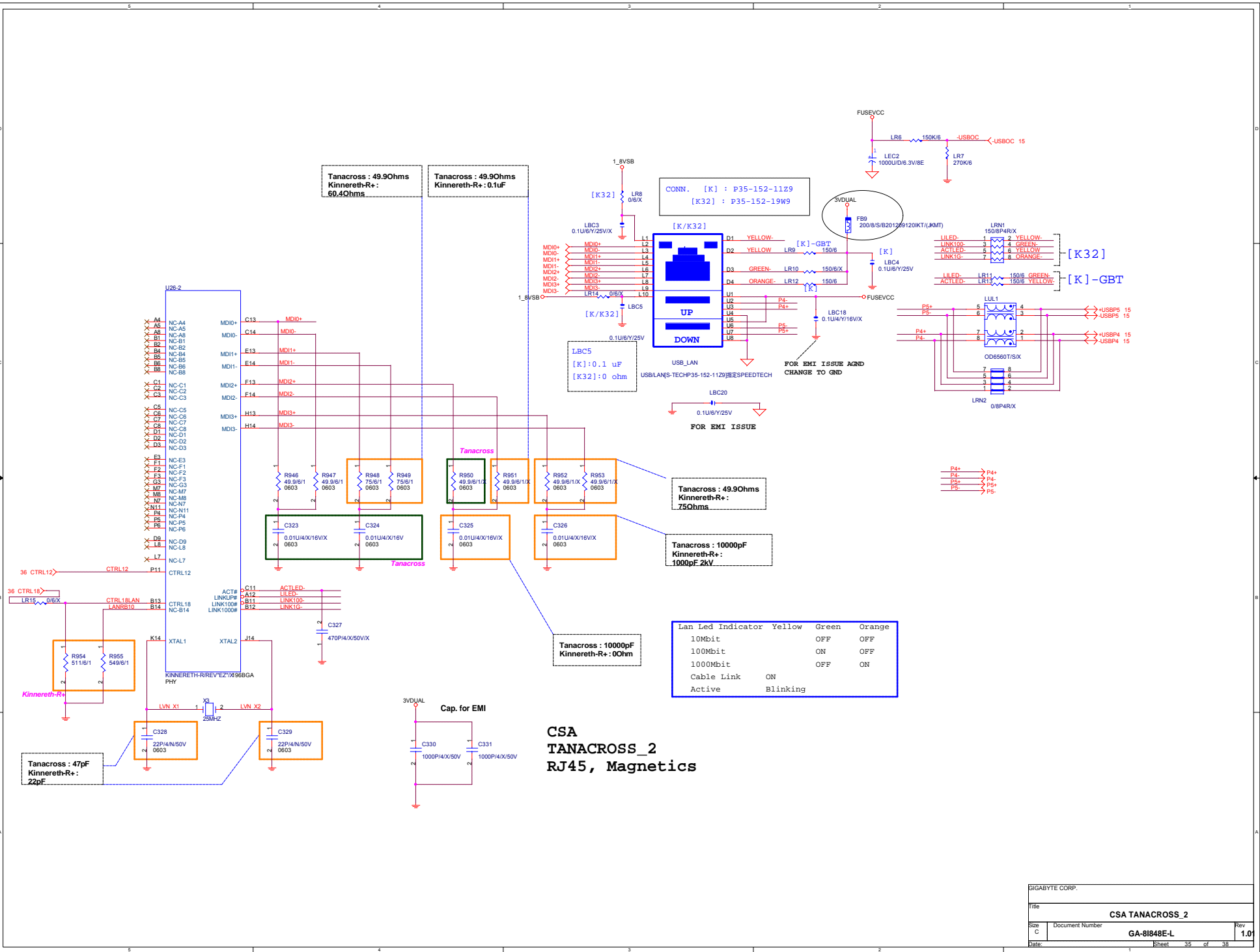


Big Copper to GND

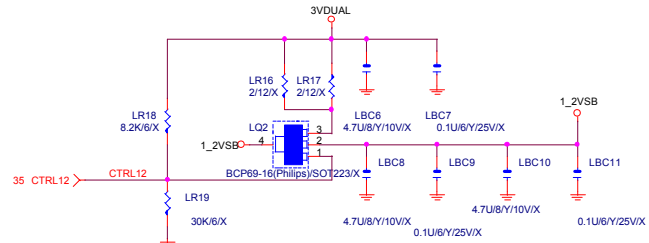
GIGABYTE CORP.		
Title		
Misc. PWR & ATX CONN.		
Size B	Document Number	Rev 1.01
Date:	Sheet 33	of 38



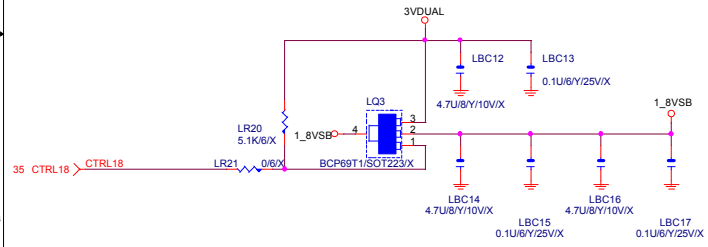
SIGABYTE CORP.			
Title			
CSA TANACROSS_1			
Size	Document Number	Rev	
Custom	GA-81848E-L	1.01	
Date:	Sheet 34 of 38		



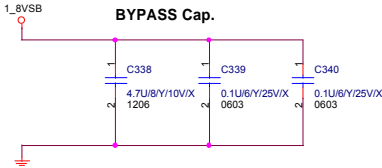
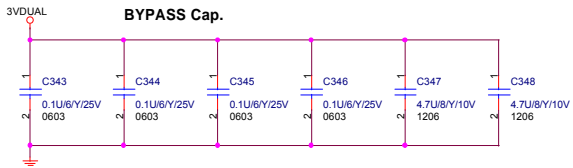
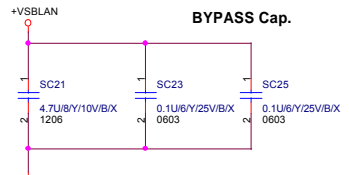
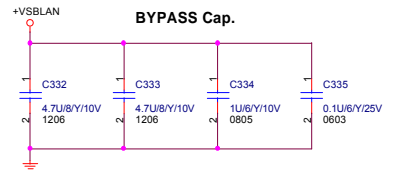
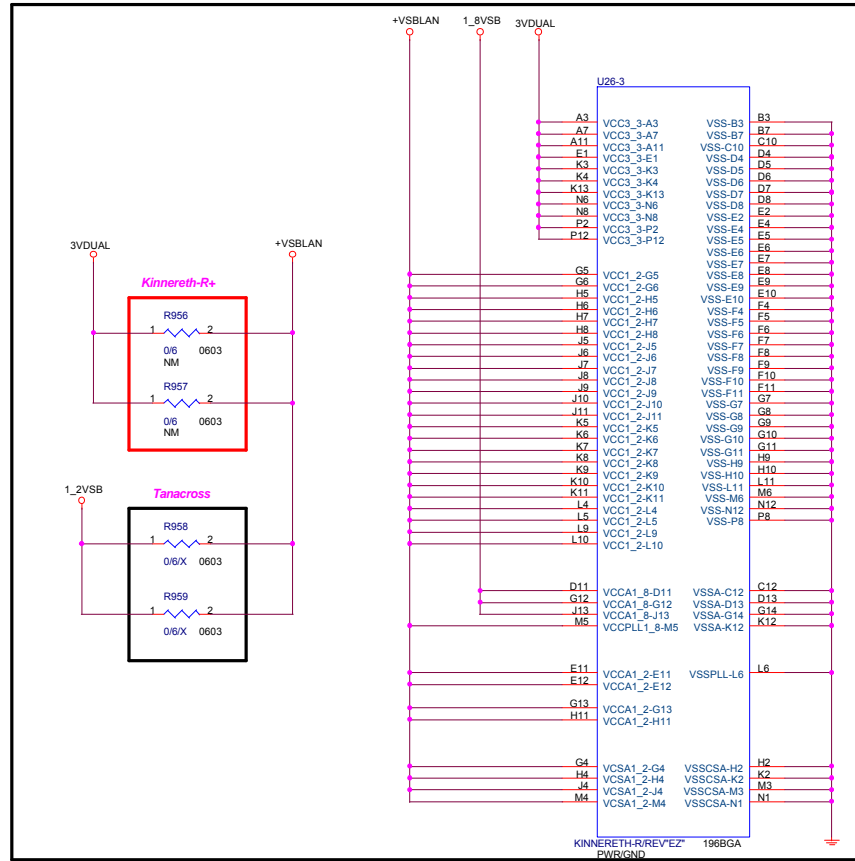
**CSA
TANACROSS_2
RJ45, Magnetics**



+1.2VSB
Max800mA
Typ500mA



+1.8VSB
Max500mA
Typ250mA



SIGABYTE CORP.			
Title			
CSA TANACROSS_3			
Size	Document Number		Rev
Custom	GA-81848E-L		1.01
Date:		Sheet	36 of 38

GIGABYTE GA-8I848E-L PCI ROUNTING LIST

PCI DEVICE	IDSEL	INT	CLOCK	REQ	GNT	
PCI SLOT1	16	C,F,G,A	PCLK0	REQ0-	GNT0-	
PCI SLOT2	17	F,G,A,C	PCLK1	REQ1-	GNT1-	
PCI SLOT3	18	G,A,C,F	PCLK2	REQ2-	GNT2-	
PCI SLOT4	19	A,C,F,G	PCLK3	REQ3-	GNT3-	
PCI SLOT5	20	C,F,G,A	PCLK4	REQ4-	GNT4-	
VIA 1394	21	F	PCICLK1394	REQ5-	GNT5-	

GIGABYTE CORP.		
Title		
PCI ROUNT LIST		
Size	Document Number	Rev
Custom	GA-8I848E-L	1.01
Date:	星期三, 八月 06, 2003	Sheet 37 of 38

GIGABYTE GA-8I848E-L GPIO LIST

SHEET

TITLE

GPIP	I/O	FUNCTION
GPI0/REQA-	I	PULL HIGH 8.2K to VCC3, SMB connector.
GPI1/REQ5-		PULL HIGH 8.2K to VCC, REQ5-.
GPI2/PIRQE-		PULL HIGH 8.2K to VCC3, PIRQE-.
GPI3/PIRQF-		PULL HIGH 8.2K to VCC3, PIRQF-.
GPI4/PIRQG-		PULL HIGH 8.2K to VCC, PIRQG-.
GPI5/PIRQH-	NA	PULL HIGH 8.2K to VCC
GPI6/AGPBUSY-	I	PULL 8.2K TO VCC3, PANEL GREEN_BUTTON
GPI7	I	DUAL BIOS FIRST BOOT SELECT.
GPI8	I	PULL 8.2K TO 3VDUAL, -CASPME.
GPI9/OC4-	NA	USB OC4-.
GPI10/OC5-	NA	USB OC5-.
GPI11/-SMBALRT	NA	PULL 8.2K TO 3VDUAL,-SMBALERT.
GPI12	I	PULL 8.2K TO VCC3,M/B REVERSION ID.
GPI13	I	LPC PME.
GPI14/OC6-	NA	USB OC6-.
GPI15/OC7-	NA	USB OC7-.
GPO16/GNTA-	NA	GPO16.
GPO17/GNT5-		GNT5-.
GPO18/STP_PCI-	NA	GPO18.
GPO19/SLP_S1-	O	DUAL BIOS.
GPO20/SLP_CPU-	O	DUAL BIOS.
GPO21/C3_SATA-	O	BLOCK TOP TABLE.
GPO22/CPUPERF-	O	PULL 8.2K TO VCC3,PANEL S3 POWER LED.

SHEET

TITLE

GPIP	I/O	FUNCTION
GPO16		PULL 8.2K TO VCC3
GPO17		PULL 8.2K TO VCC3 (GNT5-)
GPO18		PULL 8.2K TO VCC3
GPO19		PULL 8.2K TO VCC3
GPO20		PULL 8.2K TO VCC3
GPO21		PULL 8.2K TO VCC3
GPO22		PULL 8.2K TO VCC3
GPO23		PULL 8.2K TO VCC3
GPO24		PULL 1K TO 3VDUAL (TOP BLOCK)
GPO25		PULL 4.7K TO 3VDUAL, LAN 100/10 DETECT.
GPO26		NOT IMPLEMENTED
GPO27		PULL 8.2K TO 3VDUAL, BIOS WRITE PROTECT.
GPO28		PULL 8.2K TO 3VDUAL

GIGABYTE CORP.

Title			GPIO LIST		
Size	Document Number				Rev
Custom	GA-8I848E-L				1.01
Date:	星期三, 八月 06, 2003		Sheet	38	of 38